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ABSTRACT

A study examined the patterns of employment in the public sector as compared to the private, possible changes in that pattern in the last decade, and implications for educational policy. By using the human capital concept (employment patterns depend on productivity differences in individuals) and labor market segmentation analysis, the following items were researched: (1) differences in average education of public and private sector employees of different race and sex in three job levels: (2) differential wage and employment discrimination in both sectors and within the public sector: (3) salary and mobility equalization effect of educational differences between blacks and whites and women and men in the two sectors at different job levels. It was found that public employees have higher average schooling. Salary differences still exist between blacks and women and white males, all personal characteristics being equal (experience, education, etc.). Educational equalization will not have much effect on earnings equalization in similar jobs for blacks and women. It was concluded that possibilities of upward mobility for more educated blacks and women depend on continued expansion of public employment and educational services. Additionally, public employment expansion implies an increase in demand for high level education by all groups, especially blacks and women. (FP)

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FINAL REPORT

EDUCATION AND PUBLIC SECTOR EMPLOYMENT

National Institute of Education
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by

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ABSTRACT

Public sector employment has increased rapidly in the United States in the last forty years, both absolutely and relatively to the private sector. The purpose of this study is to examine the pattern of employment in the public sector as compared to the private, possible changes in that pattern in the last decade, and the implications of such patterns for educational policy. Specifically, we test for differences in average education of public and private sector employees of different race and sex in three job levels; we test for differential wage and employment discrimination (under various criteria of discrimination) in the public and private sectors and within the public sector itself (at the local, state, and federal levels); and we test for the salary and mobility equalization effect of educational differences between blacks and whites and women and men in the two sectors and at different job levels.

We find that public sector employees have higher average schooling than employees in similar types of jobs in the private sector. This is particularly true for blacks. We also find that white males get paid less in the public than in the private sector while the opposite held true for women and minorities. Thus the public sector recruits blacks and women with higher than average schooling and pays them more relative to white males than the private sector. Not only that, but the public sector is the primary employer of highly educated women and blacks; more than 50 percent of professional and administrative women and blacks are employed in government despite the fact that the government sector employs only 20 percent of the total labor force. Furthermore, a high percentage of this 50 percent is employed at the

local government level, primarily in educational services. The increase in employment of these groups in the private sector increased during the decade of the 1960s, but even so, more than 50 percent of new entrants to the black and women's professional labor force were absorbed by the government.

When we correct sex and race salary differentials for education, age, and other personal characteristic differences within type of job, we find that only a small part of those differentials were eliminated. In other words, if we equalize blacks' and women's education, experience in the labor force, training, etc., to that of white males, salary differences between races and sexes would continue to exist, particularly in the private sector. Nevertheless, we also find that such corrections bring black males' salaries in the public sector quite close to whites. For women, the single most important variable which reduces male/female differences is the time worked(weeks/year and hours/week), but even this variable does little to reduce the large differences in men and women's income. Unlike for blacks, male/female salary differences in the public sector, while less than in the private, are still large.

We conclude, therefore, that educational equalization will not have much effect on earnings equalization for blacks and women in similar jobs, even though it may reduce differences in the types of jobs blacks get compared to whites. The principal salary equalizer within jobs, especially for blacks, is the different treatment of minorities (and to a lesser extent, women) in the public sector. Public sector expansion should therefore continue to have an equalizing effect on economic opportunity for minorities and possibly women. We find that this equalization process is largely the result of the expansion of employment at the local government level, since local government employs such a large fraction of black and women professionals and since local government salaries for blacks especially are almost equal to those of whites for different levels of jobs.

These two factors lead us to the following conclusions: the continued possiblities of more educated blacks and women for upward mobility depend substantially on the continued expansion of public employment, especially local public employment, heavily weighted by the expansion of educational services. Conversely, continued public employment expansion implies an increase in the demand for higher education for all sex/race groups, but particularly for blacks and women.

From a policy standpoint, we conclude that the decline in school-age population and what we believe to be the continued "need" of government to employ higher educated minorities and women (in the absence of private sector "willingness" to absorb these groups into "high paying" jobs) implies that the public sector will have to supply new kinds of public services (we suggest adult and higher education and health services) at the local level. The continued expansion of the public sector will also imply that primary and secondary schools will have to begin training an increased number of minorities and women with the idea in mind that they will occupy professional and administrative careers. This should have an important effect on school socialization of and curriculum for those groups in the longer run.

CHAPTER 1

Introduction

The role of government in the U.S. economy and society has grown dramatically in this century, especially since the Great Depression. From spending only 6 percent of GNP in 1900 and providing about one million jobs -- a mere 4 percent of the nation's employment in 1900 -- federal, state and local government has increased to where it is currently spending 22 percent of national product and employing almost 17 million people -- 19 percent of all jobs in the economy. By 1980, more than one in every five U.S. workers will probably be employed directly by the government (see Tables 1.1 and 1.2).

The growth of the government sector has been rapid for a society which bases its economy and ideology on the "free enterprise" system. Indeed, as far as the labor market is concerned, one of the most striking features of the thirty-year period between 1940 and 1970 has been the continuous decline of the self-employed (from 21.7 percent of the labor force in 1940 to 9.0 percent in 1970) and the continuous rise of government employment, from 8 percent of the labor force in 1940 to more than 15 percent in 1970 (see Table 1.3). This decline of self-employed and rise of public employment between 1940 and 1970 are continuations of previous trends in the 1900-1940 period, but have been accentuated in these last thirty years. While the overall labor force grew at a rate of 5 percent in the thirty-year period, government-employed labor increased at more than 10 percent annually.

TABLE 1.1

Government Spending and Gross National Product, 1900-1974 (Billions of Current Dollars & Percent)

Year	Government Spending (GS)	Gross National Product (GNP)[c]	GS as a Percent of GNP
1900	1.1[b]	18.7	5.8
1910	2.0[b]	35.3	5.7
1920	5.9[b]	91.5	6.4
1930	9.2[d]	90.4	10.2
1940	14.0[d]	99.7	14.0
1950	37.9[d]	284.8	13.3
1960	99.6[d]	503.7	19.8
1965	137.0[d]	684.9	20.0
1970	219.5[d]	977.1	22.5
1974	309.2[a,d]	1397.4[a]	22.1

Sources: a. Preliminary. Each year data for the previous 3 years are reviewed.

b. Kendrick, John W., Productivity Trends in the United States. Princeton: Princeton University Press, 1966; Table A-IIb, pp. 296-297.

c. U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2. Washington, D.C., 1975; Series F 1-5, p. 224.

d. U.S. Department of Labor, Handbook of Labor Statistics 1975 - Reference Edition. Washington, D.C., 1975; Table 178, pp. 444-445.

TABLE 1.2

Government Labor Force and Total Labor Force, 1900-1974 (thousands and percent)

	1900	1910	1920	1930	1940	1950	1960	1970	1974
Government Labor Force									
(1) Civilian Government Employed							8,806[b]	13,028[b]	14,668[b]
(2) Military Personnel on Active Duty							2,494[c]	2,874[c]	2,140[c]
(3) Total Government Employed (1) + (2)	1,110[a]	1,736[a]	2,529[a]	3,206[d]	3,762[a]	7,245[a]	11,302	15,902	16,808
Total Labor Force (16 Yr.& up)									
(4) Civilian Employed							65,778[d]	78,627[d]	85,936[d]
(5) Total Employed Labor Force (2) + (4)	26,257[a]- 27,710	35,649[a]	40,212[a]	44,990[a]	45,488[a]	58,898[a]	68,272	81,501	88,076
Government in Relation to Total									
(6) Government Employed as a Percent of Total Employed Labor Force	4.1[a]	4.9[a]	6.3[a]	7.1[a]	8.3[a]	12.3[a]	16.6	19.5	19.1
Resident Population (Excludes Armed Forced Abroad)									
(7) (In millions)[c]	76.1	92.4	106.5	123.1	132.5	151.9	180.0	203.8	211.4

Sources: [a] Solomon Fabricant, The Trend of Government Activity in the United States since 1900. New York, New York: National Bureau of Economic Research, Inc., 1952; Table B1, p. 168.

[b] U.S. Department of Labor, Handbook of Labor Statistics 1975 - Reference Edition. Washington, D.C., 1975, Table 47, p. 119.

[c] U.S. Bureau of the Census, Statistical Abstract of the United States, 1975 (96th Edition), Washington, D.C., 1975; Tables 1 & 2, p. 5; and Table 522, p. 323.

[d] Employment and Training Administration, Department of Labor, Employment and Training Report of the President. Washington, D.C., 1976; Table A-1, p. 211.

Note: Data may not be exactly comparable between years because of the different data sources used. See Fabricant, pp. 161-171 for an explanation of his estimation techniques.

TABLE 1.3

Employment, Absolute and Relative, by Sex and Sector, 1940-1970 (Millions and Percent)

	Number Employed[a] (Millions)			
	1940	1950	1960	1970
Males				
Private	21.66	27.79	31.46	36.31
Government	2.26	3.47	4.79	6.78
Self-Employed	8.82	8.62	7.71	5.64
Unpaid Family	1.02	0.64	0.52	0.21
Females				
Private	8.46	12.24	16.44	21.86
Government	1.31	2.03	3.16	5.64
Self-Employed	0.94	0.97	1.46	1.38
Unpaid Family	0.42	0.48	1.14	0.79
Total				
Private	30.12	40.03	47.90	58.17
Government	3.57	5.50	7.95	12.42
Self-Employed	9.76	9.60	9.17	7.02
Unpaid Family	1.44	1.11	1.66	1.00
Total, All Employed:	44.89	56.24	66.68	78.61

	Percent of Total Employment (Percent)			
	1940	1950	1960	1970
Males				
Private	48.3	49.4	47.2	46.2
Government	5.0	6.2	7.2	8.6
Self-Employed	19.6	15.3	11.6	7.2
Unpaid Family	2.3	1.1	0.8	0.3
Females				
Private	18.9	21.8	24.6	27.8
Government	2.9	3.6	4.7	7.2
Self-Employed	2.1	1.7	2.2	1.7
Unpaid Family	.9	0.9	1.7	1.0
Total	100.0	100.0	100.0	100.0

Source: U.S. Bureau of the Census, Statistical Abstract of the United States: 1955, 1965, 1975 (76th, 86th, and 96th editions) Washington, D.C. 1955, 1965, 1975; Tables 238, 314, 587 respectively.

Note: These figures differ somewhat from the ones in Table 2.2 because of different source used.

Not only has government employment grown rapidly, but the public sector tends to employ certain groups in the labor market much more than others: women and blacks are represented in public employment in much higher percentages than in the private sector, and the growth of the relative employment of these groups in the public sector has been *increasing* over time. While the number of women employed in the labor force increased from 25 to 38 percent of the total between 1940 and 1970, the percentage of women employed in the public sector increased even more rapidly, climbing from 12 to 19 percent of employed women (Table 1.3). This should be compared with 7 to 14 percent of the male labor force in government employment in those same years. The growth of black employment in the public sector was even greater than that of women. Although we presently have no data on non-white or black employment in the public sector before 1960, our data for black males from the 1/1000 census sample indicates that the percentage of black males employed in the public sector rose from 13 percent of total black male employment in 1960 to 19 percent in 1970. The corresponding growth for black women was yet higher -- from 13 percent in 1960 to 24 percent in 1970 (Table 1.4).

What does this imply for the future? If the relative growth rates of the public and private sectors continue, we would expect that by 1980, the percentage of the labor force in the public sector would be between 20.5 percent (low estimate based on the average of the 1950/40, 1960/50, and 1970/60 public employment growth rates) and 22.0 percent (highest estimate based on 1970/60 growth rate). By 1990, the figures would be 26-30 percent of the labor force. And if present growth rates continue, women will reach 50 percent of the public sector labor force in 1980 and 55 percent in 1990.

TABLE 1.4

Non-White Civilian Force, By Sex, and Percent in Government Labor Force, 1940-1970

Year	Number (Millions)[a]	% of Total Female Labor Force	% Black Females (Males)/Total Females (Males) in Government Labor Force[b]
Females			
1940	1.84[c]	14.1[c]	-
1950	2.11[c]	12.7[c]	-
1960	3.07[d]	13.2[d]	13.4[e]
1970	4.02[d]	12.8[d]	23.7[e]
Males			
1940	3.78[c]	9.4[c]	-
1950	4.06[c]	9.4[c]	-
1960	4.64[d]	10.0[d]	12.9[e]
1970	5.18[d]	10.1[d]	19.0[e]

Notes:

a. Includes all non-white

b. "Negroes" only.

Sources:

c. U.S. Bureau of the Census, Historical Statistics of the United States, Colonial Times to 1957, Washington, D.C., 1960; Series b-26-35, p. 72.

d. U.S. Bureau of the Census, Statistical Abstract of the United States, 1975 (96th edition), Washington, D.C. 1975; Table No. 558, p. 343

e. Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census.

If the 1970/60 growth rate (in percentage of labor force employed in the public sector) continues for black men and women, the 12 percent of the government employed labor force in 1960 and the 13 percent in 1970 which was black will become about 15 percent by 1990. Since more than one-half of these are black women (counted in the women percentage above), we can expect that at present growth rates, about 60 percent of the government employed in 1990 will be black men or white or black women. Since another 3.3 percent of government workers are of Spanish heritage (census definition -- see Table 225, U.S. Bureau of the Census [1973]) and this group is classified as whites, we can expect that only about 35 percent of the government sector employment will be filled by white non-minority males by 1990, about 45 percent by white, non-minority women, 15 percent by black men and women, and about 5 percent by other minorities. (However, the percent of women in the public sector may not grow as quickly because of the slower growth [and even decline] in the number of teachers.)

These figures suggest that unless significant changes take place in the role of government in the labor market over the next two decades, the public sector will continue to be an increasingly important employer in the labor market, particularly for women and minorities. What are the differences in the labor market between this growing sector and the still dominant private sector? Since the government employs a higher fraction of women and minorities, what are the conditions for these groups compared to white males? Are labor market conditions different in various levels of the government? What role does schooling play in the public sector labor market compared to the private? For minorities and women compared to white males? What role does the education sector play as an employer within the public sector? And what are the implications of these differences -- if they do exist -- for the expansion of education in the future?

In this study, we are interested in determining the different role that education might play in the public and private sector labor markets and the implications of those differences -- if they do exist -- for educational policy in light of the more rapid growth of the public sector. In order to study the relation of education to economic success and job mobility, however, we have to understand the functioning of the private and public sector labor markets and the changes of those labor markets over time. We are particularly interested in the possible role of the public sector in giving higher pay-offs to schooling for minorities and women and, through such possibly greater job opportunity, its role in reducing discrimination against non-white male groups in the U.S. labor market and creating increased demand for schooling on the part of those groups. We answer the question of who is employed in the public sector and the private, including the amount of schooling of employees holding different types of jobs in the two sectors, We also determine the wage differences between the two sectors for men and women, blacks and whites, and Spanish surname Americans, changes in the job and pay structure in the private and public sectors over time, what explains those wage differences (particularly the role of schooling in explaining wage differences), and the pay-off to taking more schooling of those who work in the private and public sectors. In addition, we discuss differences in employment patterns and wages among various levels of the government. We attempt to measure the degree of discrimination in the private and public employment sectors, as well as the differential discrimination among levels of government in order to better understand the role of schooling in equalizing wages in public and private employment.

In the context of this general set of objectives, the research will test the following hypotheses:

1. Average schooling in the public sector is higher than in the private sector. This is the result both of higher average education in the public than in the private sector for the same type of occupation (see Methodology section below for the definition of "type of occupation"), and of an occupational mix in the public sector which is weighted more heavily to types of jobs requiring more schooling.

2. Average schooling has risen more rapidly in the public than in the private sector during the last decade (1960 - 1970). This relative rise is in part due to an increase in the public relative to the private sector of average schooling for the same type of job, and in part to relatively more rapid changes in the occupational mix of the public sector than in the private toward occupations which require more schooling.

3. The income pay-off to additional schooling is higher in the public than in the private sector for similar type jobs and in the same age/sex/race group. The higher pay-off is particularly apparent for blacks -- both males and females -- as compared to their counterparts in the private sector.

4. Blacks and women receive less pay than white males for similar type of work in both the public and private sectors, and lower mobility differentials in the two sectors, even when possible differences in years of schooling, experience, social class background, and IQ are corrected for, but the pay and mobility differentials are lower in the public

than in the private sector.

With the testing of these hypotheses, we can derive some tentative answers to other questions:

1. What role has the expansion of public sector employment played in the demand for more schooling? What will be the effect of the continued relative expansion of the public sector on the educational system, particularly on the amount of schooling for the labor force?

2. What effect has public sector employment had on the equalization of incomes of blacks and whites? Women and men? (Fact: black women's income has risen markedly relative to the incomes for white males and females and black males with the same amount of schooling. Has this rapid relative rise occurred because of a relatively increasing fraction of black females working in public sector jobs?) What does further relative expansion of the public sector imply for equalization?

3. What implications does expansion of public sector employment have for mobility opportunities during an individual's work career?

4. Given the current structure of the public and private labor markets, what implications do our results have for the education of minorities and women?

5. Given the current structure of the private and public labor markets, what implications does that structure have for public education as an employer?

Methodology

The methodology for testing these hypotheses is derived from both the concept of human capital and the concept of labor market segmentation.

The human capital approach argues that differences in salary and employment patterns (including mobility between jobs) depends largely on productivity differences among individuals, and these productivity differences depend, in turn, on the "productivity-producing" personal characteristics of individuals. Such characteristics include years of schooling, dependability, etc. There is little doubt that those workers with more schooling and work experience tend to earn higher salaries than those with less schooling and experience. So we use human capital variables in our analysis to try to understand the value of additional schooling, experience, training, etc., in explaining earnings and job mobility differences among individuals in our sample. We assume that more schooling, training and experience will account for at least part of the difference in earnings and mobility among them.

However, our analysis also assumes that significant salary and mobility differences may not be explainable by differences in human capital. We assume that individuals may be paid different salaries because of their race, sex, the type of job they work in, and the sector in which their job is located, and that these salary differences are independent of human capital characteristics and not the result of temporary disequilibrium in labor markets.

Thus, in our analysis, we divide the census sample into four race/sex groups (white males, black males, white females, black females) and run all our tests of explaining salary and mobility variation within those groups. We also divide the sample into employees in the public and private sectors and test for differences between those two employment markets that are not derived from differences in the personal characteristics of the people employed in each market.

Furthermore, we divide the sample of workers who work in the private sector into those who work in the "competitive" industries in the private sector and those who work in "non-competitive" industries. Competitive industries are defined as those that have a low concentration of firms controlling the total sales of the industry, and non-competitive industries are those in which a few firms have a high proportion of the market for the industry's goods. The idea behind this division is that workers in non-competitive industries may get paid more because of structural conditions in the industries (highly unionized, governed by monopolistic pricing practices, etc.).

We also divide the public sector into federal, state, and local government and test whether there are significant pay and employment differences between government sectors, differences that again are not based on differences in the personal characteristics of workers employed in each level of government.

Finally, we divide the sample of employees in our sample into different catagories of jobs. That division, as well as the industry division described above, draws heavily on labor market segmentation analysis developed in detail elsewhere (Carter and Carnoy, 1974; Carnoy and Rumberger, 1976; and Center for Economic Studies, 1976, Chapters 6 and 7).

A Brief Summary of Labor Market Segmentation Analysis

Without going into the detail of labor market segmentation analysis, outlined in those papers cited above, we can describe the main points of the analysis: all the variants of the segmentation model hypothesize and try to establish that there are several types of jobs in the labor market each with distinct criteria for hiring and advancement, supervisory procedures, working conditions, and wage levels, and each with generally different groups who fill the jobs.

The primary independent sector comprises jobs in which the work is non-routinized, nonmenial and involves decision making that affects workers in subordinate layers of the hierarchy. The nature of tasks in this sector precludes direct supervision by superiors, hence, the specific substance of productivity in this sector is the ability to do what one would have been told without being told. This requires acceptance and internalization of corporate norms.

Jobs in the primary subordinate segment consist of routine tasks involving little decision making. The vast majority of jobs in the public sector bureaucracies and most production jobs in the monopoly sector of the economy fall under this heading. The chief characteristics required of workers in this sector are dependability, a rules orientation, and responsiveness to authority. In short, conformity to externally imposed norms, rather than internalization of norms is the substance of productivity in this sector.

Jobs in the secondary labor market segment require the minimum of either general or job specific skills. These are the jobs with the lowest status, lowest wages, and least secure working conditions. In short, these are jobs which anyone could do if they had a choice. (See Chapter 2, Appendix A for further details.)

In the labor market segmentation model, the productivity-earnings identity is essentially abandoned. The structure of wages in this theory is explained by different factors depending on what version of the theory is used. But in all versions, the structure of wages is influenced and dominated primarily by variables exogenous to individual productivity: sexism, racism, custom, "divide and conquer methods" of employers' production organization, monopoly power, the nature of firms' markets for goods, bureaucracy, status considerations, maintenance of class structure in the face of "meritocratic" rules, etc. These factors, none of which should influence productivity, do affect the wage structure, both between segments of the labor market and within segments.

The issue of earnings structure in labor market segmentation theory, therefore, moves out of the realm of analyzing factors which affect productivity to analyzing the institutional structure of wages themselves and the social-political-economic forces influencing changes in the structure. The theory implies that earnings structure is not determined by, nor even necessarily tied to the distribution of productivity. Thus the distribution of factors which contribute to productivity can change (or be changed) without a corresponding effect on earnings distribution. To look at it another way, the correlation of education and experience with earnings does not establish that more education and more experience contributes to higher productivity; hence, the connection between these worker characteristics and wages is not economic (in the sense of increasing production) but tends to be socio-institutional.

Segmentation theory goes further to assert that in parts of the labor market, like the secondary labor market in competitive industry, the relationship of education and experience to wages may be considerably less important than in the primary market or in the monopoly sector where custom or the historical evolution of job organization have resulted in promotion ladders related to experience (or seniority) and division between job segments based on education.

Thus according to segmentation theory, the role of education in reducing poverty must be seen in terms of shifting people out of the secondary labor market into the primary and from competitive to monopoly industries rather than assuming that education and training lead automatically to higher incomes. The theory therefore greatly reduces the role of education and training in altering wage distribution. Incomes are attached to jobs not because of the amount of schooling a worker has, but because of hierarchical needs and customs. In other words, schooling requirements are attached to incomes which are determined exogenously to the amount of schooling a person has. Secondary jobs have low incomes, according to the theory, because, historically, people who were in these jobs had little bargaining power, both politically and economically. While "economic" bargaining power (relative scarcity of skills), according to this theory, implies a role for increases in income for those with increased schooling, this only occurs if a few people get increased schooling. Mass education for all the poor, for example, will not increase their collective economic bargaining power.

Changes Over Time

We identify workers with a job segment if they have worked in a particular job classification over a five-year period (1965-1970). So we are able to analyze the mobility between job changes and income within job type in the public and private sectors of different sex/race groups as a way of understanding how well or badly each group does relative to others in the two sectors and in each type of job. In Chapter 2, we estimate the characteristics of workers in job-defined labor markets and compare those wage and education characteristics, as well as the numbers of workers in each job type, of workers in the public and private sectors. We also look at the mean between-job segment mobility of each race/sex group in the public and private sectors. This gives us a picture of the two sectors' labor markets at a point in time (1970).

In addition, we estimate changes over time in these two labor markets in two ways: 1) we take another cross-section picture of employment, wages, and education of different sex/race groups in each job classification in the public and private sectors at an earlier point in time (1960); 2) we estimate mean earnings, employment patterns among job types, and mean education for those workers 25-34 years old in 1960 and the same age group in 1970, in order to understand possible time trends among younger workers. This latter estimate may reveal changes over time that the estimates for the entire range of age groups would not pick up.

The Earnings Function Estimates

Once we estimate employment, wage, and education patterns in the different segments of the labor market as we defined them, focusing particularly on the differences between the private and public sectors for different race/sex groups, we attempt, in Chapter 3, to estimate the relation between human capital variables and earnings/mobility within each race/sex group, job segment, and public/private sector. These regression estimates are interesting in themselves, for they yield the pay-off to schooling in each segment, and enable us to compare the value of schooling among race/sex groups and between the public and private sector within each job segment. But more important, they provide the empirical basis for correcting earnings and mobility differences between the public and private sector for education, age, and training differences. This enables us, by simulating the earnings of each race/sex group within each job segment and within each sector assuming the mean personal characteristics of white males in the private sector, to predict the earnings and mobility of each group as if they had the same education, experience, training, etc. of those white males. While this is only an estimate, we can get some idea of the effect of personal characteristic differences and time worked differences on earnings relative to earnings differences that cannot be explained by education, age, time worked, etc. This gives us an approximation of both the power of education to equalize earnings and of the "pure" race/sex discrimination in the private and public sectors, as well as the "pure" earnings differences for the same race/sex groups between public and private sectors. We undertake a similar analysis to estimate earnings differences among the different levels of government (Chapter 4).

There is a considerable body of work which estimates earnings functions (income or earnings as a function of schooling, age, and other variables) for the total U.S. labor force and for sex/race components of the total labor force (see for example, Hanoch, 1967; Chiswick and Mincer, 1972; Griliches and Mason, 1972; Harrison, 1972a; Fuchs, 1971; Jencks, et al., 1972). All of these studies show that schooling is less important in blacks' earnings functions than whites'. Some authors argue that schooling is relatively unimportant compared to other variables, particularly Jencks. Griliches and Mason estimate years of schooling as more important than IQ, social class, and race combined. However, none of these earnings functions makes separate estimates for the private and public sectors.

Others have attempted to estimate earnings functions by labor market segments. Andrisani (1973) using data gathered by Herbert Parnes and his associates at Ohio State, measured earnings functions in "secondary" and "primary" markets for both black and white males. But he defined the division in labor markets as the median income: those above the median were in the primary markets and those below, in the secondary market. Osterman (1975) divided census occupational classifications into secondary, primary subordinate, and primary independent, rather vague criteria, apparently based on Osterman's "judgment" of what category each occupation fell into. This resulted in almost 85 percent of his OEO sample observations falling into the primary subordinate category. Rosenberg (1975) did not deal with earnings functions; rather, he estimated the determinants of worker's job sector (in Rosenberg's study, secondary and primary segments), and mobility between job segments. He defined the secondary segment in a manner quite similar to ours, using the Dictionary of Occupational Titles (DOT) job descriptions (type of task, training, and education) as applied to the 1960 census occupational classification by Robert Lucas (1973). His primary segment is essentially those jobs which are not in the secondary labor market. Rosenberg used samples from low income areas of four cities: Cleveland, Brooklyn, San Francisco, and Boston.

Both Andrisani and Osterman found differences in earnings functions for different job markets. Rosenberg found limited mobility between job segments, especially for minority groups. The advantage of our data in this study is the large sample size, general coverage of the labor force, and the possibility of testing mobility between types of jobs and within the public and private sectors. Also, we have been much more careful than Osterman in developing job segments consistent with the criteria developed for them by various versions of the theory, much in the line of Rosenberg's work.

There have also been estimates of earnings functions for the public sector (Corazzini, 1972; Long, 1975). Corazzini used a sample of about 950 GS-5 through GS-15 Federal employees in the Washington, D.C. area to estimate salary as a function of age, education, experience prior to first federal job, training, sex, race, and other variables. Furthermore, he estimated separate functions for whites and blacks (including sex as a variable) for men and women (including race as a variable), and workers over and under 40 (including sex and race as variables). He also divides workers in each of his regression sets into administrative technical workers and professional workers. Long uses the same census data we do for 1970, comparing federal and private sector salaries by race, sex, and even by blue and white collar workers.

The results of Corazzini and Long's earnings functions show that for these categories of federal employees, years of schooling has a consistently positive and significant coefficient in the earnings functions, somewhat larger in absolute terms for women than for men and larger for non-whites than for whites. But both non-white men and women earn significantly less than their white counterparts, all other variables held constant. Black women do not earn significantly less than black men, but white women do earn significantly less than white men, all other variables held constant.

Their work also indicates that discrimination on the basis of race and sex does take place among federal employees, and that this discrimination is somewhat less than in the private sector. When Corazzini divided his sample into administrative/technical workers and professionals, he found that the functions looked approximately the same for the two groups, except that there was no significant racial discrimination among male administrative/technical workers, while there was racial discrimination at this level. Also, there were too few non-white and female professionals in his sample to do meaningful comparative estimates at that level. Although both his and Long's results fall short of what we have in mind, they give us clues to what the earnings functions may look like in the public sector, particularly the nature of salary differentials among different groups in that sector. We test additionally whether the public sector results are different at the state and local level, since the latter particularly will be heavily weighted by teachers in the labor force.

The Data

The majority of our research is based on statistical analyses of two census samples -- the 1970 1/100 5% County Group Public Use Sample and the 1960/1970-Compatible Public Use Sample. Each of the public use samples is a representative sample of the records from that year's census questionnaires. The samples and the contents of the records are described in U.S. Bureau of the Census (1972) and National Data Use and Access Laboratories (1973).

From each of these two public use samples we extracted four sub-samples -- white males, black males, white females, and black females. Each of the sub-samples are composed of individuals in that race/sex group who were 14 years old or older at the time of the census and a member of the civilian labor force. In the case of the two female groups from the 1970 Census we also included those who were working in 1965 but not necessarily working in 1970, in order to examine at what occupational level women enter the labor force. We subsequently performed similar analyses on each of these sub-samples.

We divided the labor force for each of the sub-samples in two ways. First, we divided the labor force by the class of worker -- private, public (either federal, state, or local) and self-employed. Within the private sector we further divided the labor force by whether an individual worked in a competitive or a non-competitive industry (see

Chapter 2, Appendix A). Second, we divided the labor force occupations of the respondents into four occupational segments -- secondary, primary subordinate, primary independent, and crafts (again, see Chapter 2, Appendix A).

Interpretation of the Results

The results of our cross-section analysis of the public and private labor markets and the function of schooling in those markets describe some important aspects of public and private employment at one point in time (1970), and some changes in the relative employment, wage, and education patterns of different kinds of jobs over one decade (1960-70). While we can draw some inferences from such an analysis about relative sex/race discrimination in the two sectors, about their employment structure, about differences within the private sector (competitive vs. non-competitive industry), about relative differences in the education and wage of people in different types of jobs, and the possibilities of using education and other personal characteristics as policy mechanisms for equalizing wages and employment opportunities, it is difficult from the analysis to predict what might happen in the private/public employment markets in the future, and how the role of education in those markets may or may not change over time.

To undertake a solid interpretation of our results we need a theory of State/private enterprise relations, and a historical discussion and empirical validation of that theory. It is beyond the scope of this study to undertake such a discussion and validation. Although we deal with detailed data from 1960 and 1970, this is too short a period to show whether one theory, or model, of public sector employment is "better" (more predictive) than another. Nevertheless, the policy implications of the study demand that we choose some plausible model of State behavior.

Without going into detailed explanation of such models, we can outline -- from the literature on theories of the State -- four main theories:

1. Pluralist theories of the State view the State as an impartial non-interested mediator in political competition among numerous groups seeking power, resources, or services (Dahl, 1967). The State is accessible to all interest groups through the electoral process and generally favors no one group; its aim is to serve the general welfare. Government enters the economy in order to provide what society demands via the pluralistic political process, and so direct State employment comes about in response to changes in the demand for public goods and services, and in response to societal concepts of the public welfare. So, for example, pluralist theory would explain the expansion of government employment as a response to the production of public goods such as schooling, income security, national defense, etc., and would explain the higher relative wages of blacks and women in government as a response to social pressure to correct discrimination (a changing concept of the social good). In the latter case, government would be viewed by pluralist theory as acting like a "vanguard" which sets the example for the private production sector.

2. Corporatist theories of the State view State intervention in the economy as necessary to foster continued (capitalist) economic development. Government and private industry cooperate to promote the "national interest," that includes its foreign policy, domestic labor policy and transportation, communication, and energy policy. Goals of this

policy are established by the corporate-bureaucratic complex, allegedly on technocratic grounds. State activity is thus not a response to voting patterns, or economic (dollar) demand for social goods as in the pluralist model, but determined by a corporate-bureaucratic elite, in part under the assumption that it is this elite that can plan for the best interest of the population as a whole. (For more on the corporate model, see Galbraith, 1967 and Berle and Means, 1968). Nevertheless, the State is rather independent in this model, and government employment expansion comes about in part from the needs of government bureaucracy to meet its own needs of self-aggrandizement. In particular, the military is viewed as having expansion objectives that are largely independent of private sector corporate needs (Melman, 1970). As far as wage or employment discrimination is concerned, its reduction in the government sector (with pressure on the private corporate sector to do the same) results from a decision by the corporate bureaucratic elite that less discrimination is in the best national interest.

3. Instrumentalist theories of the State regard government institutions as instruments of the ruling class, and the economic management of the economy in those theories consequently occurs largely in response to ruling class needs to guarantee the continued generation of profits and their accrual to the capitalist class. Employment by the public sector results from economic maneuvering initiated by the capitalist class which must occur to maintain the capitalist structure of the economy as well as increase profits (Perlo, 1973). Expansion of the public sector becomes increasingly important to provide military and scientific support for the private sector; indeed, military expenditure helps protect U.S. capitalist expansion into foreign markets and -- at

the same time -- increases profits at home through military procurement (Baran and Sweezy, 1966). The other large absorber of public employment -- the educational and welfare system -- is also seen as the result of maximizing control of the labor force in the interest of the capitalist class (Bowles and Gintis, 1976).

4. Structuralist theories of the State are related to instrumentalist theories, in that they view the State as serving the interests of the capitalist class, but unlike instrumentalist theories, the structuralist model considers this connection as less direct and considers the State sector as a source of contradiction in capitalist development. Thus, for structuralists the State is created and expanded for the purposes of assuring the reproduction of capitalism, including the increase of profits and the maintenance of the control of capital in capitalist hands, but the very creation of that State engenders a source of contradiction in capitalist expansion. The functions of the State are determined by structural interrelations among institutions, not people or groups who occupy positions of authority and power. Two aspects of the structural approach are significant and are stressed by theorists: 1) The notion of the relative autonomy of the State has been emphasized by Althusser (1971) and Poulantzas (1969). Poulantzas argues that while the State is not the direct agent of the ruling class it represents their political interests: it is the dominant classes' political power center and the organizing agent of their political struggle. 2) The relative autonomy of the State allows it to arrange political compromises with other classes which in the long run serve to preserve the essential institutions, prerogatives, and features of capitalism. It may even be necessary for the State to arrange compromises within the capitalist

class in order to promote the long-run interest of the entire class. Anti-trust legislation, for example, imposed additional and even crippling regulations on some large trusts, but was necessary in order to preserve and eventually promote the long term development of American capitalism (particularly monopoly capitalism) in a rational and less controversial way (Weinstein, 1968). In summary, the State stands at the center of the principal contradiction of capitalist society; the contradiction between the social character of production and the private appropriation of profits (O'Connor, 1974). The dangers to the continuation of capitalism are twofold: on the one hand is the threat of working class unity that increases as more workers perceive and experience the injustices of capitalism; on the other is the persistent threat of disunity among capitalists. The policies of the State serve to preserve the atomization and individualization of the working class (as we shall argue, for example, the hiring of more educated blacks, other minorities, and women into the public sector at relatively high wages). Alternatively, the institutions of the State are capable of overcoming and unifying the individual interests of particular capitalist groups: small versus large capital, exporters versus domestic producers, etc.

In the final chapter of the study -- the policy implications chapter -- we choose to use the structuralist model in our attempt to predict future behavior of government employment and its implications for education policy. Our choice is based on our reading of historical evidence not detailed here, what we feel to be the more comprehensive nature of structuralism, and our preference for the dialectical-historical approach inherent in that theory.

Organization of the Study

The presentation of the descriptive results is divided into three parts: In part one, we study the employment structure of the private and public sectors and also compare the average wages and education of employees by sector by race/sex group, divided into the three major categories of jobs derived from our segmentation model (Chapter 2). In part two, we attempt to explain wage and mobility differences in the public and private sectors by race/sex group and job category, focusing particularly on the role of education in those differences (Chapter 3). This allows us to test whether educational policy can be influential in the reduction of discrimination between race and sex groups in the labor force. In part three, we undertake a similar analysis of wage, education, and employment structure differences within the public sector, looking for significant differences between state, local, and Federal employment (Chapter 4).

The final chapter (5) takes these descriptive results and attempts to make them coherent within the theories of the state described briefly above. We then attempt -- through a limited interpretation of the results in the structuralist model -- to project some of the implications of our findings into possible future government employment behavior and its implications for educational policy.

Chapter 2

Who Gets Government Jobs?

One of the important themes that runs through this monograph is the different employment functions of the public and private sectors of the economy. If these employment functions are similar, then any secular shift in employment to the public sector, as has occurred over the last 50 years, should have little effect on educational policy. However, if the public sector employs people in a different set of jobs than the private sector, or if the public sector employs different groups, or different groups in different kinds of jobs than the private sector, a shift to public sector employment could have profound effects on education. Furthermore, the public sector may reward employees differently than the private sector, or may provide greater opportunities for upward mobility. All these differences and how they relate to schooling will be the subject of this chapter.

For the purpose of job classification, we use a labor market segmentation approach (Carnoy and Rumberger, 1976) in which jobs are classified into three principal categories: secondary jobs, requiring little training and no decision-making responsibility; primary subordinate jobs, requiring much more training but little decision-making responsibility; and primary independent jobs, requiring high levels of training and decision-making responsibility. A fourth classification -- crafts -- refers to those workers who are principally employed through contract work and have specific skills associated with artisan-type work.[1]

We also restrict our temporal analysis to the period 1960-1970. Although it would have been useful to look at changes in public and private sector labor markets over a longer period of time, the detailed data necessary for the analysis were only available for the last two census years (see Chapter 1 for a description of the public use sample). In Chapter 1 we gave some indication of general trends in public and private employment since 1900 and 1940. In this chapter, we go into much greater detail of the structure of public and private employment (who gets jobs, in what occupations, and with what qualifications) in the decade of the nineteen-sixties, a decade marked by important emphasis on minority equality in the private sector and public sector expansion of social services.

The government sector specializes in producing services. Apparently such services "require" a more highly schooled labor force than the production of manufactured and agricultural products because a much higher fraction of government employees than those employed in the private sector are college educated and are designated as professionals, high level technicians, or administrators. The average education of government employees is much higher than that of private sector workers, especially among blacks and women.[2] For those two groups, average education is higher not just because the public sector employs a higher fraction of professionals in its labor force, but also because the average education of workers holding particular categories of jobs in the government is higher than in the private sector.[3] So blacks and women government workers, especially in professional and administrative jobs, are more schooled than private sector workers in the same category jobs.

About 21 percent of white men working in the private sector in

1970 were in professional or administrative jobs, but in the public sector, more than 40 percent of them were in that job category (see Tables 2.3 to 2.10). The differences are even greater for all other groups: only 4 percent of black males in the private employment sector held upper level jobs, but 17 percent of them in the government had those kinds of jobs; less than 12 percent of white women in the private sector were professionals and administrators in 1970, but in the government, more than 45 percent of white women were in that upper category (this included primary and secondary school teachers); and about 5 percent of black women in the private employment sector had those kinds of jobs, but more than 30 percent of black women government workers held such professional jobs. The differences between the private and public employment sectors at the other end of the job spectrum are also remarkable, especially for women: in private enterprise, almost one-fourth of white women and one-half of black women employed worked in menial jobs; in the government, only 6 percent of white women and 14 percent of black women had that type of job.

For men, the difference is not as great, yet there is a significantly lower percentage of men working in menial jobs in the public sector (18 in private vs. 12 in public for white males and 38 in private vs. 32 in public for black males).

The public sector is more heavily weighted toward the kinds of jobs which are characterized by more schooling, and this is probably the single most important reason that the public sector has a much higher level of schooling than the private sector. But the public sector also hire people with higher average schooling in each general type of job. The nature of the task being done within the very broad categories of work as we have defined them varies greatly and may be very different in private and public employment. Yet the fact that black men, for example, averaged three years more schooling in public sector professional/administrative jobs in 1970 than in the same category of work in the private sector (see Table 2.1) tells us that the black professional in public jobs is on average prepared differently from his private sector "counterpart." It also tells us that a much higher fraction of black college graduates -- both men and women -- are entering the public than private sector. And since the differences in schooling between white male public and private professional level employees is only slightly more than one year, we can argue that for white male professionals, public and private employment probably differs little either in the nature of the work or the formal preparation required.

One could argue that the public sector requires a higher level of schooling from blacks than whites as a way to restricting blacks entry into public employment. The private sector, demanding less schooling for every level of job, might be easing minority entry into private employment. Later in this section, we will show that this is not the case; black employment in the public sector is growing as fast or faster than in the private sector, especially in higher level jobs. The same argument applies to women; higher levels of schooling for white women in different categories of public jobs has not deterred the continued rapid incorporation of women into the public sector. Despite the apparently lower educational requirements for high level jobs, the private sector continues to fail to incorporate the more educated members of these groups in proportion to the share of total employment held by the private sector.

Why is this so? The most obvious and probably correct answer is

TABLE 2.1

Employee's Mean Education by Race, Sex, Occupational Segment, and Sector, 1970 (Years).

	Occupational Segment/Sector					
	Secondary		Primary Subordinate		Primary Independent	
	Private	Public	Private	Public	Private	Public
White Males	9.7	9.6	10.9	11.5	14.0	15.6
Black Males	8.2	9.0	9.5	11.0	12.4	15.4
White Females	10.0	10.4	11.3	12.0	13.4	15.6
Black Females	8.6	9.4	10.4	11.3	12.2	14.8

Source: Based on statistical analysis of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census.

that the private sector, while "requiring" lower schooling levels of blacks and women for roughly the same categories of work, also pays less to have these tasks done. Table 2.2 shows how much more blacks and women earned in public employment for each category of work. White men, on the other hand, earned less, on the average, in the public sector for similar categories of work (except in menial jobs) even though, like all race/sex groups, the average schooling of white men working in the public sector averaged higher than in the private sector.

Even so, the higher salaries paid to blacks and women in public employment might be no more than a pay-off to their higher average schooling, and so would not signal any "premium" which would be particularly attractive to those groups. Again, we shall show later that the public sector pays more than the private sector to blacks and white women even when education and age differences are accounted for. This is also true for Spanish surname Americans.

Is this higher income paid to minorities and women by the public sector as a "premium" to these groups -- a result, possibly, of those groups' political power? Or does the higher income in the public sector represent a lower level of discrimination than in the private sector? In other words, does the public sector pay more to minorities and women for political reasons or does it pay more because -- again for political reasons -- the public sector chooses to be less exploitative of minorities and women than the private sector?

There is a great difference in these views: on the one hand, the private sector is defined as properly allocating resources, rewarding workers according to what they produce, while the public sector rewards people on the basis of politics, and so is likely to be economically inefficient. Minorities and women, in that view, are paid less than white

TABLE 2.2

Employee's Mean Annual Earnings, by Race, Sex, Occupational Segment, and Sector, 1969 (Current Dollars)

	Occupational Segment/Sector					
	Secondary		Primary Subordinate		Primary Independent	
	Private	Public	Private	Public	Private	Public
White Males	4,255	4,866	7,456	7,445	12,173	10,471
Black Males	3,550	4,339	5,146	6,088	6,941	8,761
White Females	2,301	2,222	3,456	3,846	5,074	6,400
Black Females	1,807	2,620	3,020	3,996	4,263	6,044

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of Census.

males by the private sector, because they are less well educated, even if they have the same number of years of schooling as white males, or are less reliable, or have a higher turnover (in the case of women particularly). In the other view, the private sector is defined to be more discriminatory than the public sector -- lower wages are paid to minorities and women in the private sector because somehow employers are able to convince those groups to accept less than their product, or at least less than white males for the same job or for the same amount of schooling and experience. In either case, the public sector pays higher wages to minorities and women for political reasons: from one point of view as a premium over and above their productive "worth," and from another, to rectify the injustices of the private employment sector.

Furthermore, the largest salary premium is generally paid by the public sector in the highest job category -- professional and administrative work -- affecting higher educated women and blacks. In other words, the government is apparently rectifying injustices to a greater extent for the least "needy" of the worse paid minority and women workers. The government sector also employs a much smaller percentage of the labor force of menial and middle-level workers. So on both counts, the main compensatory employment function of the government seems to be directed in favor of highly educated and higher paid blacks and women rather than the low educated and poor members of those groups. Their political power in gaining government hiring is translated into gaining jobs for those who are already best prepared -- by human capital criteria -- to do well in the overall labor market. However, as we show in this and the next chapter, the private sector seems unprepared to absorb highly educated women and blacks at salaries equal to the salaries of white males with the same amount of schooling and "experience," although it has moved somewhat more in this direction since 1960. The public sector, we argue, feeling the particularly politically sensitive nature of this discrimination (as opposed to discrimination against lower class blacks and women) responds by being especially active in absorbing minorities and women in higher level jobs at higher salaries than the private sector pays.

Those blacks and women employed in the public sector at all levels of jobs are more schooled than in the private sector in similar broad job categories. Does this mean that the public sector "requires" higher average schooling for those jobs or does the public sector attract the more educated blacks and women for every type of job because that sector pays higher salaries? We cannot separate out these two effects, but can only suggest that since salaries are higher in the public sector for these groups, other variables accounted for, blacks and women would be more attracted to public sector jobs than to similar private sector jobs. This should allow the public sector to demand more schooling, experience, and ability from blacks and women for a given type of job than the private sector can get. On the other hand, since the public sector pays somewhat lower salaries to white males, there should not be a similar "upgrading" process in their case. Nevertheless, public employment may offer other attractive features, such as job stability and merit promotion, which might lead to an increase in the quality of applicants to each type of job over the private sector even for white males. Some of these secular movements become clear when we examine the changes over time in the two employment sectors.

Is There More Mobility in the Public Than in the Private Sector?

One crucial feature which may distinguish the two employmen markets is the upward and downward job mobility in them for various race and sex groups. American tradition has it that the public sector offers greater job stability, but that the private sector offers greater opportunity for upward mobility and high rewards if a person is competent and highly motivated. We don't have the data to test this well-ingrained idea directly, since we don't know what sector people were in ten or fifteen years ago versus which sector they were in in 1970. But we do know what occupational category job-holders were in in 1965 and what job category and sector (public, private, self-employed) they were in in 1970. Thus, we can examine mobility across occupational categories (segments) but we don't know whether these shifts involve changes from the public to the private sector or vice versa.

Did people move up more occupationally if they ended up in the public sector in 1970? Tables 2.3 and 2.4 show the similarity of mobility patterns among labor markets for white males in the public and private sectors. The only major differences are that in the public sector, individuals who had been in the secondary, or menial work, labor market (either public or private) had a higher probability of ending up in professional (primary independent) jobs in 1970 than those who worked in the private sector in 1970; and those who held professional level jobs in 1965 had a smaller chance of dropping into production or menial jobs if they were in the public sector.[3] For black males there are also similarities between the private and public sectors (Tables 2.5 and 2.6), but for those blacks who started out in the highest level jobs (primary independent) in 1965, there was little chance in the public sector that they would fall into lower level jobs by 1970, while in the private sector, there was almost a 40 percent probability that in the five year period, job level would decline. Now some of this decline may have come

TABLE 2.3

Occupation in 1970 by Occupation in 1965 Within Private Sector for White Males (In thousands and percent)

Occupation in 1965-Segment		Occupation in 1970 - Segment					
		Secondary	Primary Subordinate	Primary Independent	Crafts	Unemployed	Row Total
Secondary	Number	2,215	1,059	207	151	0	3,632
	Row %	61.0	29.2	5.7	4.2	0.0	11.0
	Column %	36.9	6.2	3.0	5.0	0.0	
	Total %	6.7	3.2	0.6	0.5	0.0	
Primary Subordinate		657	10,269	651	321	0	12,098
		5.4	84.9	7.0	2.7	0.0	36.5
		10.9	60.6	12.2	10.6	0.0	
		2.0	31.0	2.6	1.0	0.0	
Primary Independent		179	696	4,316	87	0	5,278
		3.4	13.2	81.8	1.6	0.0	15.9
		3.0	4.1	61.8	2.9	0.0	
		0.5	2.1	13.0	0.3	0.0	
Crafts		76	297	86	1,585	0	2,044
		3.7	14.5	4.2	77.5	0.0	6.2
		1.3	1.8	1.2	52.2	0.0	
		0.2	0.9	0.3	4.8	0.0	
Occupation Not Reported		285	999	365	195	0	1,844
		15.5	54.2	19.8	10.6	0.0	5.6
		4.7	5.9	5.2	6.4	0.0	
		0.9	3.0	1.1	0.6	0.0	
NA (Not in Labor Force)		2,590	3,625	1,163	696	133	8,207
		31.6	44.2	14.2	8.5	1.6	24.8
		43.2	21.4	16.6	22.9	100.0	
		7.8	11.0	3.5	2.1	0.4	
Column Total		6,002	16,945	6,988	3,035	133	33,103
		18.1	51.2	21.1	9.2	0.4	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 2.4

Occupation in 1970 by Occupation in 1965 Within Public Sector for White Males (In thousands and percent)

		Occupation in 1970 - Segment					
Occupation in 1965-Segment		Secondary	Primary Subordinate	Primary Independent	Crafts	Former Armed Forces	Row Total
Secondary	Number	329	135	57	15	0	536
	Row %	61.4	25.2	10.6	2.8	0.0	9.1
	Column %	45.8	5.4	2.4	5.7	0.0	
	Total %	5.6	2.3	1.0	0.3	0.0	
Primary Subordinate		103	1,598	182	29	0	1,912
		5.4	83.6	9.5	1.5	0.0	32.4
		14.3	64.0	7.6	11.0	0.0	
		1.7	27.1	3.1	0.5	0.0	
Primary Independent		23	121	1,490	4	0	1,638
		1.4	7.4	91.0	0.2	0.0	27.7
		3.2	4.8	62.0	1.5	0.0	
		0.4	2.0	25.2	0.1	0.0	
Crafts		15	35	24	137	0	211
		7.1	16.6	11.4	64.9	0.0	3.6
		2.1	1.4	1.0	52.1	0.0	
		0.3	0.6	0.4	2.3	0.0	
Occupation Not Reported		47	154	126	25	3	355
		13.2	43.4	35.5	7.0	0.8	6.0
		6.5	6.2	5.2	9.5	12.0	
		0.8	2.6	2.1	0.4	0.1	
NA (Not in Labor Force)		201	452	524	53	22	1,252
		16.1	36.1	41.9	4.2	1.8	21.2
		28.0	18.1	21.8	20.2	88.0	
		3.4	7.7	8.9	0.9	0.4	
Column Total		718	2,495	2,403	263	25	5,904
		12.2	42.3	40.7	4.5	0.4	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 2.5

Occupation in 1970 by Occupation in 1965 Within Private Sector for Black Males (In thousands and percent)

Occupation in 1965-Segment		Occupation in 1970 - Segment Secondary	Primary Subordinate	Primary Independent	Crafts	Unemployed	Row Total
Secondary	Number	589	152	7	28	0	776
	Row %	75.9	19.6	0.9	3.6	0.0	23.5
	Column %	46.7	9.5	4.7	10.6	0.0	
	Total %	17.8	4.6	0.2	0.8	0.0	
Primary Subordinate		96	818	16	10	0	940
		10.2	87.0	1.7	1.1	0.0	28.4
		7.6	50.9	10.7	3.8	0.0	
		2.9	24.7	0.5	0.3	0.0	
Primary Independent		18	23	69	3	0	113
		15.9	20.4	61.1	2.7	0.0	3.4
		1.4	1.4	46.0	1.1	0.0	
		0.5	0.7	2.1	0.1	0.0	
Crafts		9	13	3	104	0	129
		7.0	10.1	2.3	80.6	0.0	3.9
		0.7	0.8	2.0	39.5	0.0	
		0.3	0.4	0.1	3.1	0.0	
Occupation Not Reported		82	118	10	20	0	230
		35.7	51.3	4.3	8.7	0.0	7.0
		6.5	7.3	6.7	7.6	0.0	
		2.5	3.6	0.3	0.6	0.0	
NA (Not in Labor Force)		467	482	45	98	29	1,121
		41.7	43.0	4.0	8.7	2.6	33.9
		37.0	30.0	30.0	37.3	100.0	
		14.1	14.6	1.4	3.0	0.9	
Column Total		1,261	1,606	150	263	29	3,309
		38.1	48.5	4.5	7.9	0.9	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 2.6

Occupation in 1970 by Occupation in 1965 Within Public Sector for Black Males (In thousands and percent)

Occupation in 1965-Segment		Occupation in 1970 - Segment				
		Secondary	Primary Subordinate	Primary Independent	Crafts	Row Total
Secondary	Number	135	33	2	3	173
	Row %	78.0	19.1	1.2	1.7	21.0
	Column %	50.8	8.5	1.5	9.7	
	Total %	16.4	4.0	0.2	0.4	
Primary Subordinate		17	231	13	2	263
		6.5	87.8	4.9	0.8	32.0
		6.4	59.5	9.5	6.5	
		2.1	28.1	1.6	0.2	
Primary Independent		2	4	75	2	83
		2.4	4.8	90.4	2.4	10.1
		0.8	1.0	54.7	6.5	
		0.2	0.5	9.1	0.2	
Crafts		1	1	2	15	19
		5.3	5.3	10.5	78.9	2.3
		0.4	0.3	1.5	48.4	
		0.1	0.1	0.2	1.8	
Occupation Not Reported		33	24	9	2	68
		48.5	35.3	13.2	2.9	8.3
		12.4	6.2	6.6	6.5	
		4.0	2.9	1.1	0.2	
NA (Not in Labor Force)		78	95	36	7	216
		36.1	44.0	16.7	3.2	26.3
		29.3	24.5	26.3	22.6	
		9.5	11.6	4.4	0.9	
Column Total		266	388	137	31	822
		32.4	47.2	16.7	3.8	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

in movement from public to private sector jobs, but it is hard to imagine that large numbers of blacks employed in professional and administrative jobs in the public sector would move into lower level jobs in the private sector during a period when the public sector was expanding.

The mobility differences for women between the two sectors are much greater than for men. As Tables 2.7 to 2.10 show, both white and black women who were in the public sector in 1970 and had menial jobs in 1965 had much greater upward mobility into higher level jobs than those who reported being in the private sector in 1970. Similarly, those who started out in middle-level jobs, had greater upward mobility in the public sector than in the private; in fact, for both white and black women who changed jobs between 1965 and 1970, there was a net downward movement for those in middle level jobs in the private sector. These differences in mobility pattern between private and public employment in the lowest level and middle level jobs are not characteristic of the male labor market. At the highest job level, however, women show the same mobility pattern differences as do men; there seems to be much more downward mobility in the private than in the public sector and more job "stability" in holding high level jobs in the public sector.

Although these data are not conclusive, since we don't know in which sector individuals were in 1965, all indications are that there is greater opportunity for upward mobility for women in the public sector, and for both men and women there is less likelihood of downward mobility if someone starts out in a higher level job in the public sector. As we will see later, moving downward from one of these categories to another means moving from a high salary occupation to a much lower salary occupation category. In general, the best explainer of such mobility -- both up and down -- is the individual's educational level; those with less

TABLE 2.7

Occupation in 1970 by Occupation in 1965 Within Private Sector for White Females (In thousands and Percent)

		Occupation in 1970 - Segment					
Occupation in 1965-Segment		Secondary	Primary Subordinate	Primary Independent	Crafts	Not in Labor Force	Row Total
Secondary	Number	1,637	441	58	10	0	2,146
	Row %	76.3	20.5	2.7	0.5	0.0	10.4
	Column %	33.9	3.4	2.4	4.9	0.0	
	Total %	8.0	2.1	0.5	0.0	0.0	
Primary Subordinate		433	5,874	274	23	0	6,604
		6.6	88.9	4.1	0.5	0.0	32.1
		9.0	45.5	11.4	11.2	0.0	
		2.1	28.6	1.3	0.1	0.0	
Primary Independent		54	246	1,125	2	.0	1,425
		3.8	17.3	78.8	0.1	0.0	6.9
		1.1	1.9	48.8	1.0	0.0	
		0.3	1.2	5.5	0.0	0.0	
Crafts		5	22	6	77	0	110
		4.5	20.9	5.5	70.0	0.0	0.5
		0.1	0.2	0.5	57.8	0.0	
		0.0	0.1	0.0	0.4	0.0	
Occupation Not Reported		170	499	102	13	0	784
		21.7	63.6	13.0	1.7	0.0	3.8
		3.5	3.9	4.3	6.3	0.0	
		0.8	2.4	0.5	0.1	0.0	
NA (Not in Labor Force)		2,534	5,823	857	80	226	9,500
		25.7	61.3	8.8	0.8	2.4	46.2
		52.4	45.1	54.9	39.0	100.0	
		12.3	28.3	4.1	0.4	1.1	
Column Total		4,833	12,905	2,400	205	226	20,569
		23.5	62.7	11.7	1.0	1.1	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 2.8

Occupation in 1970 by Occupation in 1965 Within Public Sector for White Females (In thousands and percent)

Occupation in 1965-Segment		Occupation in 1970 - Segment					
		Secondary	Primary Subordinate	Primary Independent	Crafts	Not In Labor Force	Row Total
Secondary	Number	103	64	16	0	0	183
	Row %	56.3	35.0	8.7	0.0	0.0	3.6
	Column %	31.5	2.6	0.7	0.0	0.0	
	Total %	2.0	1.3	0.3	0.0	0.0	
Primary Subordinate		32	1,182	141	1	0	1,356
		2.4	87.2	10.4	0.1	0.0	26.8
		9.8	48.7	6.2	5.	0.0	
		0.6	23.4	2.8	0.0	0.0	
Primary Independent		7	79	1,189	1	0	1,276
		0.5	6.2	93.2	0.1	0.0	25.2
		2.1	3.3	52.1	5.6	0.0	
		0.1	1.6	25.5	0.0	0.0	
Crafts		1	0	2	5	0	8
		12.5	0.0	25.0	62.5	0.0	0.2
		0.3	0.0	0.1	27.8	0.0	
		0.0	0.0	0.0	0.1	0.0	
Occupation Not Reported			70	70	2	0	152
		6.6	46.1	46.1	1.3	0.0	
		3.1	2.9	3.1	11.1	0.0	
		0.2	1.4	1.4	0.0	0.0	
NA (Not in Labor Force)		174	1,030	866	9	0	2,079
		8.4	49.5	41.7	0.4	0.0	41.1
		53.2	42.5	37.9	50.0	0.0	
		3.4	20.4	17.1	0.2	0.0	
Column Total		327	2,425	2,284	18	0	5,054
		6.5	48.0	45.2	0.4	0.0	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 2.9

Occupation in 1970 by Occupation in 1965 Within Private Sector for Black Females (In thousands and percent)

Occupation in 1965-Segment		Occupation in 1970 - Segment Secondary	Primary Subordinate	Primary Independent	Crafts	Not In Labor Force	Row Total
Secondary	Number	84	95	6	1	0	686
	Row %	85.1	13.8	9	0.1	0.0	25.5
	Column %	46.1	7.8	4.3	4.8	0.0	
	Total %	21.7	3.5	0.2	0.0	0.0	
Primary Subordinate		9	493	21	5	0	598
		13.2	82.4	3.5	0.8	0.0	22.2
		6.2	40.4	15.0	23.8	0.0	
		2.9	18.3	0.8	0.2	0.0	
Primary Independent		11	12	52	0	0	75
		14.7	16.0	69.3	0.0	0.0	2.8
		1.0	1.1	37.1	0.0	0.0	
		0.4	0.4	1.9	0.0	0.0	
Crafts		0	1	0	3	0	4
		0.0	25.0	0.0	75.0	0.0	0.1
		0.0	0.1	0.0	14.3	0.0	
		0.0	0.0	0.0	0.1	0.0	
Occupation Not Reported		53	55	7	1	0	116
		45.7	47.4	6.0	0.9	0.0	4.3
		4.2	4.5	5.2	4.8	0.0	
		2.0	2.0	0.3	0.0	0.0	
NA (Not in Labor Force)		540	564	54	11	44	1,213
		44.5	46.5	4.5	0.9	3.6	45.1
		42.6	46.2	38.6	52.4	100.0	
		20.1	21.0	2.0	0.4	1.6	
Column Total		1267	1220	140	21	44	2,692
		47.1	45.3	5.2	0.8	1.6	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

TABLE 2.10

Occupation in 1970 by Occupation in 1965 Within Public Sector for Black Females (In thousands and percent)

		Occupation in 1970 - Segment					
Occupation in 1965-Segment		Secondary	Primary Subordinate	Primary Independent	Crafts	Not In Labor Force	Row Total
Secondary	Number	4	9	4	0	0	77
	Row %	57.1	37.7	5.2	0.0	0.0	9.2
	Column %	38.9	6.3	1.5	0.0	0.0	
	Total %	5.2	3.5	0.5	0.0	0.0	
Primary Subordinate		7	203	20	0	0	230
		3.0	88.3	8.7	0.0	0.0	27.4
		6.2	44.0	7.5	0.0	0.0	
		0.8	24.2	2.4	0.0	0.0	
Primary Independent		0	14	140	0	0	154
		0.0	9.1	90.9	0.0	0.0	18.3
		0.0	3.0	52.8	0.0	0.0	
		0.0	1.7	16.7	0.0	0.0	
Crafts		0	1	0	0	0	1
		0.0	100.0	0.0	0.0	0.0	0.1
		0.0	0.2	0.0	0.0	0.0	
		0.0	0.1	0.0	0.0	0.0	
Occupation Not Reported		9	19	15	1	0	44
		20.5	43.2	34.1	2.3	0.0	5.2
		8.0	4.3	5.7	100.0	0.0	
		1.1	2.3	1.8	0.1	0.0	
NA (Not in Labor Force)		53	195	86	0	0	334
		15.9	58.4	25.7	0.0	0.0	39.8
		46.9	42.3	32.5	0.0	0.0	
		6.3	23.2	10.2	0.0	0.0	
Column Total		113	461	265	1	0	840
		13.5	54.9	31.5	0.1	0.0	100.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Samples, U.S. Bureau of the Census education in high level jobs have a much higher probability of moving downward over the five-year period than those with more education. Since high level jobs in the private sector are staffed by people with lower average schooling, particularly in the case of blacks in such jobs, this is probably an important reason why downward mobility is greater in the private sector. We discuss the role of education in the two sectors in detail below.

Changes in the Composition of the Public and Private Sector Labor Force, 1960-70

Another way of looking at mobility in the two sectors is to analyze their growth and the composition of that growth in the decade of the sixties. Individuals of different race and sex can find professional and administrative job openings only as rapidly as those openings appear in the labor market. In the nineteen-sixties, as in the previous two decades, the public sector generally expanded much more rapidly than the private sector. This fact alone probably made the opportunity for improved mobility greater in the public sector. But in the case of certain groups, the way the public sector expanded relative to the private had a lot to do with the nature of their job opportunities, and hence their mobility, over time. While private sector employment of blacks in professional and administrative jobs increased more rapidly than that of whites, the employment of black males in such jobs increased even more quickly in the public than in the private sector. For black men, the public sector expansion of the sixties was the most important source of new jobs at the professional and administrative level. Although the situation is different for black women and for women in general, the public sector expansion for women in the sixties served -- in absolute terms -- as an equally important source of higher level jobs as the private sector, even though the private sector employed, in all job categories together, 80 percent of women in the labor force.

Tables 2.11 and 2.12 divide white and black males in the private (employed and self-employed) and public sectors among these occupational classifications for 1960 and 1970. Tables 2.13 and 2.14 show corresponding breakdowns for women in the two years.

These tables make several points clear:

1. The public sector employs as part of its total labor force a much higher percentage of males and females in primary independent jobs than does the private sector.[4] The difference in occupational composition is greatest for women, particularly black women[5] and for black men. The public sector also employs a much lower percentage of its labor force in secondary jobs. Again, the difference is most apparent for women. Thus although the public sector job structure is, on the average, more oriented toward self-initiating action -- self-direction -- than the private employment sector structure for all groups, the difference is much greater for women than for men.[6]

2. Between 1960 and 1970, the private sector job structure for white males did not change appreciably, although there was an increase in the relative number of primary independent jobs in the primary employment sector and a decrease in the relative number of primary subordinate jobs. In the entire private sector (including self-employed), there was a slight decrease in the percentage of primary independent jobs (28.4 to 27.1 percent). In the public sector the shift in these two job categories was much more marked, and upward.

3. For black men, the important shift in private employment jobs occurred between the secondary segment and primary subordinate craft jobs (as contrasted with the white male shift from primary subordinate to primary independent). The percentage of jobs available for black males in

TABLE 2.11

White Male Labor Force by Occupation and Sector, All Age Groups, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	4,916	6,002	470	718	159	244
Percent[b]	17.0	18.1	11.3	12.2	2.4	4.4
Primary Subordinate						
Total Number[a]	16,074	16,945	2,119	2,495	1,179	1,278
Percent[b]	55.9	51.2	51.0	42.2	17.8	22.9
Primary Independent						
Total Number[a]	5,282	6,988	1,341	2,403	4,744	3,502
Percent[b]	18.4	21.1	32.3	40.7	71.8	62.8
Crafts						
Total Number[a]	2,479	3,035	189	263	527	554
Percent[b]	8.6	9.2	4.6	4.4	8.0	9.9
Total						
Total Number[a]	28,751	33,103	4,152	5,904	6,609	5,578
Percent[c]	72.8	74.2	10.5	13.2	16.7	12.5

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.
b. "Percent" refers to percent in that occupational segment in that year.
c. "Total Percent" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.12

Black Male Labor Force by Occupation and Sector, All Age Groups, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	1,514	1,261	164	266	29	19
Percent[b]	51.3	38.4	34.1	32.4	9.9	9.0
Primary Subordinate						
Total Number[a]	1,224	1,606	230	388	45	60
Percent[b]	41.4	49.0	47.8	47.2	15.4	28.4
Primary Independent						
Total Number[a]	81	150	64	137	183	89
Percent[b]	2.7	4.6	13.3	16.7	62.4	42.2
Crafts						
Total Number[a]	134	263	21	31	36	43
Percent[b]	4.5	8.0	4.4	3.8	12.3	20.4
Total						
Total Number[a]	2,953	3,280	481	822	293	211
Percent[c]	79.2	76.0	12.9	19.0	7.9	4.9

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.
b. "Percent" refers to percent in that occupational segment in that year.
c. "Total Percent" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.13

White Female Labor Force by Occupation and Sector, All Age Groups, 1960 and 1970 (In thousands & percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	3,297	4,833	110	327	70	96
Percent[b]	23.3	24.2	3.8	6.5	6.9	8.1
Primary Subordinate						
Total Number[a]	9,273	12,905	1,373	2,425	360	569
Percent[b]	65.6	63.1	47.8	47.9	35.4	48.3
Primary Independent						
Total Number[a]	1,434	2,400	1,363	2,284	504	477
Percent[b]	10.1	11.8	47.5	45.2	49.5	40.5
Crafts						
Total Number[a]	134	205	24	18	85	37
Percent[b]	0.9	1.0	0.8	0.4	8.3	3.1
Total						
Total Number[a]	14,138	20,343	2,870	5,054	1,019	1,179
Percent[c]	78.4	76.5	15.9	19.0	5.6	4.4

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.
b. "Percent" refers to percent in that occupational segment in that year.
c. "Total Percent" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.14

Black Female Labor Force by Occupation and Sector, All Age Groups, 1960 and 1970 (In thousands & percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	1,428	1,267	44	113	8	7
Percent[b]	70.0	47.4	13.4	13.2	11.4	11.5
Primary Subordinate						
Total Number[a]	545	1,220	157	461	28	37
Percent[b]	26.7	46.2	47.8	54.4	40.0	60.6
Primary Independent						
Total Number[a]	53	140	125	265	33	17
Percent[b]	2.6	5.6	38.1	32.2	47.1	27.9
Crafts						
Total Number[a]	13	21	2	1	1	-
Percent[b]	0.7	0.8	0.6	0.1	1.4	-
Total						
Total Number[a]	2,039	2,648	328	840	70	61
Percent[c]	83.7	74.6	13.4	23.7	2.9	1.7

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to estimated number (in thousands) in population.

b. "Percent" refers to percent in that occupational segment in that year.

c. "Total Number" refers to percentage of private plus public plus self-employed in that year.

private employment sector primary independent jobs also increased, but because of the low base starting point in 1960, the absolute number of new primary independent jobs opening up for blacks in the private employment sector was less than 70,000 over the ten years, less (in absolute numbers) than in the public sector, which employs in total less than one-fifth of the total force. This is even more surprising in the face of the apparent small change in the public sector composition of jobs between 1960 and 1970. If the self-employed part of the private sector is taken into account, the absolute number of primary independent jobs for blacks actually decreased in the private sector, from about 260 thousand to 240 thousand (since we include farmer as a primary independent job, this result should be treated carefully -- it may simply reflect a decrease in the number of independent black small farmers. Later in this chapter we show that the average education of the primary independent self-employed blacks was 6 years in 1960 and 9 years in 1970, which lends credence to the small farmer effect). One-third of the jobs held by black males in the public sector remained secondary jobs, even though in the private sector, the percent of blacks in secondary jobs dropped rapidly. Although the relative number of secondary jobs in the public sector was lower than in the private sector in 1970, it still was almost three times the percentage of public secondary jobs held by white males. Indeed, almost 30 percent of the secondary jobs held by males in the public sector in 1970 belonged to blacks, while only 6 percent of the primary independent jobs held by males belonged to blacks.

4. The change in the job structure for white women, as for white men, was very small both in the private and public sectors. And, as for white men, the percentage of secondary jobs increased. Most im-

portant, however, is the apparent decline of primary independent jobs in the public sector; this differs markedly from the trend for both white and black males.

5. The relative decline in the percentage of these higher level jobs in the public sector is even more accentuated in the case of black women, where the percentage of black women employed in professional and administrative jobs in the public sector fell from 38 to 32 percent in the ten years, while the percentage of middle level employees rose by almost seven percentage points. In the private sector, there was a sharp drop in the percent of black women employed in menial tasks and a rise in the percentage employed in production line and middle level jobs. The average level of job for black women therefore rose in the private sector and fell in the public, with a tendency for both sectors to increase the number of black women working in production line and middle level jobs. And this should not obscure the fact that despite the slower growth of public sector higher level jobs for black women, in absolute numbers, the public sector in 1970 still employed about 66 percent of black women, about 50 percent of all women both black and white, and about 50 percent of black males in those kind of jobs. Furthermore, as in the case of black males, the absolute increase in the private sector of higher level jobs for black women was much less than the increase over the ten years in the public sector (about 80 thousand in the private sector versus 135 thousand in the public). This despite the sharp decline in the percentage of black women in the public sector employed in such jobs.

So, the average type of job in the private sector increased for all sexes and races, but the increase was particularly notable for blacks (men and women) in the private employment sector. Yet, the nature of this increase was such that the number of primary independent jobs available for blacks in the private sector did not rise very much; rather, their upward movement was between secondary jobs and primary subordinate and crafts jobs. And although the public sector -- like the private -- employed more blacks in secondary jobs out of their proportion in the labor force as a whole, government jobs also provided more than one-half of the total primary independent jobs available for blacks and women. In an important way, then, the public sector has absorbed blacks and women into jobs requiring more self-initiative and creativity.

We can get some further indications of the time trend of these movements by examining the same breakdown for males 25-34 years old (Tables 2.15, 2.16, 2.17, and 2.18). For white males the trends are almost identical as for the white male labor force as a whole. However, the relative percentages of workers in secondary jobs is much lower for this younger age group and, in primary independent jobs, much higher than for all white males The age factor would point to the opposite effect; we would expect that young workers are more likely to be in secondary jobs than older workers, and that less younger workers are in primary independent jobs. But the fact that younger workers have higher average schooling apparently overrides the age effect. In any case, we confirm that white males in both the public and private employment sectors have shifted from primary subordinate to primary independent jobs in the 1960-70 decade. We also note a trend away from secondary jobs, a trend not apparent from Table 2.11. Fewer younger than older men are in secondary jobs in both the public and private sector.

For young black males the trends are also similar to those for

TABLE 2.15

White Male Labor Force by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	856	925	71	90	21	39
Percent[b]	12.7	12.1	7.0	6.9	2.4	5.1
Primary Subordinate						
Total Number[a]	3,871	4,051	489	511	181	208
Percent[b]	57.4	53.1	48.5	39.4	20.3	27.1
Primary Independent						
Total Number[a]	1,452	1,918	405	652	615	424
Percent[b]	21.5	25.2	40.1	50.3	68.9	55.3
Crafts						
Total Number[a]	564	723	39	36	75	96
Percent[b]	8.4	9.5	3.9	2.8	8.4	12.5
Total						
Total Number[a]	6,743	7,622	1,009	1,296	892	767
Percent[c]		78.7		13.4		7.9

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.
b. "Percent" refers to percent in that occupational segment in that year.
c. "Total Number" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.16

Black Male Labor Force, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	315	224	34	37	4	1
Percent[b]	45.1	28.5	23.9	20.9	12.9	2.7
Primary Subordinate						
Total Number[a]	331	455	82	77	6	9
Percent[b]	47.1	56.4	57.7	38.4	19.6	22.2
Primary Independent						
Total Number[a]	23	52	24	42	18	17
Percent[b]	3.3	7.1	16.9	35.0	58.1	52.8
Crafts						
Total Number[a]	35	62	6	10	4	8
Percent[b]	4.8	7.8	4.2	5.6	12.9	22.2
Total						
Total Number[a]	694	747	142	177	31	36
Percent[c]	80.0	77.8	16.4	18.4	3.6	3.8

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to estimated number (in thousands) in population.

b. "Percent" refers to percent in that occupational segment in that year.

c. "Total Number" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.17

White Female Labor Force, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	540	789	8	48	4	12
Percent[b]	20.7	21.3	1.8	5.0	4.5	7.5
Primary Subordinate						
Total Number[a]	1,713	2,281	206	378	40	86
Percent[b]	65.9	61.7	46.7	39.2	44.9	54.1
Primary Independent						
Total Number[a]	313	571	221	538	34	58
Percent[b]	12.0	15.4	50.1	55.8	38.2	36.5
Crafts						
Total Number[a]	32	42	6	-	11	3
Percent[b]	1.2	1.1	1.4	-	12.4	1.9
Total						
Total Number[a]	2,598	3,683	441	964	89	159
Percent[c]	83.0	76.6	14.1	20.0	2.8	3.3

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.

b. "Percent" refers to percent in that occupational segment in that year.

c. "Total Number" refers to percentage of private plus public plus self-employed in that year.

TABLE 2.18

Black Female Labor Force, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In thousands and percent)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Total Number[a]	300	236	8	24	-	3
Percent[b]	62.8	38.2	7.7	12.0	-	30.0
Primary Subordinate						
Total Number[a]	157	332	53	112	5	6
Percent[b]	32.8	53.8	51.0	56.0	55.6	60.0
Primary Independent						
Total Number[a]	18	39	41	64	4	1
Percent[b]	3.8	6.3	39.4	32.0	44.4	10.0
Crafts						
Total Number[a]	3	10	2	-	-	-
Percent[b]	0.6	1.6	1.9	-	-	-
Total						
Total Number[a]	478	617	104	200	9	10
Percent [c]	80.9	74.6	17.6	24.2	1.5	1.2

Source: Based on statistical analyses of the 1960 & 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note:
a. "Total Number" refers to estimated number (in thousands) in population.
b. "Percent" refers to percent in that occupational segment in that year.
c. "Total Number" refers to percentage of private plus public plus self-employed in that year.

all black men in the labor force; in the private sector, the principal shift in 1960-70 is between secondary and primary subordinate/craft jobs. However, Table 2.16 reveals that among black workers, there is a greater relative shift than for all black males to primary independent jobs in the private sector, and in the public sector, there is a very large shift among young workers from primary subordinate to primary independent jobs. As in the case of white males, we also observe the trend toward a relatively greater number of primary independent jobs and fewer secondary jobs. These figures on younger workers show, furthermore, that despite the more rapid increase in this age group of primary independent jobs for black males in the private sector, the government sector is absorbing an even higher percentage of young primary independent black workers than all black workers; in the 25-34 year-old age group, 56 percent of the increase in blacks in primary independent jobs was absorbed by the public sector.

The figures for young women show the same trend: the percentage of younger women employed in secondary jobs is lower than for all age groups together and the percentage in primary independent jobs is much higher, in both the private and public sectors. Even more telling is the rapid decline over the decade in middle-level jobs in the public sector for white young women (while for all age groups the percentage increased slightly) and the increase in the percentage of professionals and administrators (including teachers) among those young white women in the public sector (while for all age groups together the percentage declined). This difference between the public sector trend for professional young women and the entire white female force points to a future increase in the percentage of white women professionals employed in the public female labor force despite a declining average percentage between

1960 and 1970 in all age groups together. The public sector appears to be picking up a higher fraction of younger professional women than it is of all white women professionals. Excluding the self-employed, the public sector employed 55 percent of the increment of white women 25-34 years-old who were added to the primary independent labor force between 1960 and 1970, as compared to 49 percent absorption by the public sector of additional professional women of all ages during the decade.

But the same is not true for young black women: Table 2.14 and 2.18 show that the percentage of all black women (25-34 years old) employed in public sector professional jobs decreased about the same amount that the percentage of all black women in public sector employment. So we do not have, in this case, a movement among younger black women workers opposite to changes in the occupational distribution in the entire black female labor force; in fact, the percent of black women working in menial tasks in the public sector increased much more rapidly than for all black women together. In the private sector, there is no substantial difference in trends between younger and older workers in this group.

One final and important point: Tables 2.11 through 2.18 show that an increasing fraction of primary independent jobs for all groups but black women are in the public sector. In 1960, 20.2 percent employed white males in primary independent jobs worked for the government; in 1970, 25.0 percent did. In 1960, 44.1 percent of employed black males in primary independent jobs worked for the government; in 1970, 47.7 percent did. In 1960, 48.7 of white women in such jobs worked in the public sector; in 1970, 48.8 did. But in the case of black women, the percentage declined from 70.6 percent in 1960 to 65.6 percent in 1970. There is a slight drift upward in younger age white workers (in 1970, 25.4 percent of 25-34 year-old employed white males in primary independent jobs worked for the government), but for blacks and at least white women the increase is much more evident; rather than 47.7 percent in the government in 1970, among 25-34 year-old black males, the figure is 53.9 percent; and for white women, the figures are 45.2 and 55.8 percent (for black women, 32.2 and 32.0 percent).

How Did Education Levels Change in the Public and Private Sectors Between 1960 and 1970?

The employment of minority groups and women increased rapidly in the public sector between 1960 and 1970, but was this increase at the expense of "quality" of those employed in the public sector? The public sector has evidently played a major role in employing nonwhite male groups in professional jobs and thus providing them upward mobility that would not otherwise be available to them. Between 1970, as we have seen, the level of schooling of these groups (and their income) employed in the public sector was much higher than in the private. Does this mean that the public sector has been able to absorb workers in to the labor force at a rapid rate without declining education levels for each type of job? Has the attractiveness of the public sector financially for minorities and women drawn increasingly more educated people from those groups to government jobs?

Our data show that for whites -- both men and women -- the average level of schooling rose in every occupational segment and in both public and private employment sectors; indeed, despite an equally or greater rate of increase between 1960 and 1970 in public sector employment for white men and women in every occupational category, the average education of public sector employees rose as quickly or more quickly than the mean education of employees in the private sector (Tables 2.19 and 2.21). But for blacks, this is not necessarily the case.[7] For both black men and women the mean education in the public employment sectors is much higher in every occupational category, but especially in primary independent jobs (Tables 2.20 and 2.22). There, black males in the government averaged three years more schooling than in the private sector, and black women, two years. Yet the average amount of schooling of those in primary independent jobs actually fell for blacks between 1960 and 1970 in both private and public employment. For black women in primary subordinate jobs, there was also a decline in mean education. If we take the 25-34 year-old age group, this drop is even more evident for black males: the decrease in mean schooling in the public sector was a full year (Tables 2.23 - 2.26).

The decrease for blacks, compared with the rise in white mean schooling, indicates a pattern of recruitment into professional and administrative jobs over the 1960-70 period that differs for white and blacks; apparently, the private employment sector has been increasingly selective with respect to the quantity of schooling in hiring whites into these upper level jobs, but decreasingly selective in hiring blacks. In the public sector, blacks in primary independent jobs had higher average schooling than whites in 1960, but this reversed by 1970, both because the average schooling of whites rose and blacks fell. This decline may have occurred in response to the Civil Rights Act of 1964 -- pressure developed to bring blacks into higher status, higher paying jobs, and this could have led directly to a drop in average schooling of the occupational group. No such decrease occurred in primary subordinate or secondary jobs for males, although the average schooling of both whites and blacks -- particularly blacks -- fell for crafts in the public sector as well, and the average schooling of black women fell in primary subordinate jobs.

TABLE 2.19

White Males' Mean Education, by Occupation and Sector. All Age Groups, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	8.7	9.7	8.4	9.6	9.2	10.0
Std. Deviation	3.3	3.0	3.4	3.2	3.5	3.3
Total Number[a]	4,916	6,002	470	718	159	244
Primary Subordinate						
Mean Education	10.1	10.9	10.8	11.5	9.8	10.7
Std. Deviation	3.0	2.7	2.9	2.7	3.3	3.2
Total Number[a]	16,074	16,945	2,119	2,495	1,179	1,278
Primary Independent						
Mean Education	13.3	14.0	14.8	15.6	10.6	12.2
Std. Deviation	3.1	3.0	3.3	2.9	4.1	3.8
Total Number[a]	5,282	6,988	1,341	2,403	4,744	3,502
Crafts						
Mean Education	9.8	10.5	10.8	10.7	9.7	10.3
Std. Deviation	2.9	3.0	4.2	2.6	3.2	3.2
Total Number[a]	2,479	3,035	189	263	527	554

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.20

Black Males' Mean Education by Occupation and Sector, All Age Groups, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	6.9	8.2	8.0	9.0	6.3	7.6
Std. Deviation	3.6	3.6	3.7	3.4	3.7	4.0
Total Number[a]	1,514	1,261	164	266	29	21
Primary Subordinate						
Mean Education	8.0	9.5	10.4	11.0	7.6	9.1
Std. Deviation	3.5	3.4	3.5	3.0	4.2	3.2
Total Number[a]	1,224	1,606	230	388	45	60
Primary Independent						
Mean Education	12.5	12.4	15.7	15.4	6.1	9.2
Std. Deviation	4.4	3.8	2.8	2.7	4.2	5.1
Total Number[a]	81	150	64	137	183	89
Crafts						
Mean Education	7.8	8.9	10.3	9.2	8.8	9.2
Std. Deviation	3.7	3.8	4.0	3.3	3.4	3.7
Total Number[a]	134	263	21	31	36	43

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.21

White Females' Mean Education, by Occupation and Sector, All Age Groups, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	9.3	10.0	9.4	10.4	9.9	10.2
Std. Deviation	2.7	2.6	3.0	2.7	3.0	3.8
Total Number[a]	3,297	4,833	110	327	70	96
Primary Subordinate						
Mean Education	10.7	11.3	11.7	12.0	10.6	11.2
Std. Deviation	2.5	2.4	2.2	2.2	2.	2.5
Total Number[a]	9,273	12,905	1,373	2,425	360	569
Primary Independent						
Mean Education	13.2	13.4	15.3	15.6	10.8	11.9
Std. Deviation	2.7	2.7	2.4	2.3	3.3	2.8
Total Number[a]	1,434	2,400	1,363	2,284	504	477
Crafts						
Mean Education	11.7	11.2	16.4	13.8	13.6	12.7
Std. Deviation	2.7	3.2	1.7	3.0	2.7	2.7
Total Number[a]	134	205	24	18	85	37

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.22

Black Females' Mean Education,
by Occupation and Sector,
All Age Groups, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	7.7	8.6	8.2	9.4	4.8	10.1
Std. Deviation	3.3	3.3	3.2	3.3	3.8	2.3
Total Number[a]	1,428	1,267	44	113	8	7
Primary Subordinate						
Mean Education	9.7	10.4	11.6	11.3	9.5	10.3
Std. Deviation	3.0	2.9	2.6	2.4	2.7	2.2
Total Number[a]	545	1,220	157	461	28	37
Primary Independent						
Mean Education	12.9	12.2	15.7	14.8	9.8	9.6
Std. Deviation	3.4	3.0	2.2	3.2	4.6	2.1
Total Number[a]	53	140	125	265	33	17
Crafts						
Mean Education	11.2	10.4	16.5	12.0	2.0	-
Std. Deviation	4.0	2.4	0.7	-	-	-
Total Number[a]	13	21	2	1	1	-

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.23

White Males' Mean Education, by Occupation and Sector, 25-34 Year - Old Age Group, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	9.0	10.3	9.3	10.1	10.7	11.5
Std. Deviation	3,3	3.1	2.9	2.7	2.4	2.9
Total Number[a]	856	925	71	90	21	39
Primary Subordinate						
Mean Education	10.8	11.5	11.6	12.2	11.3	11.5
Std. Deviation	2.9	2.4	2.6	2.4	2.8	3.1
Total Number[a]	3,871	4,051	489	511	181	208
Primary Independent						
Mean Education	14.3	14.7	15.9	16.4	12.0	13.1
Std. Deviation	2.7	2.7	2.5	2.4	3.6	3.2
Total Number[a]	1,452	1,918	405	652	615	424
Crafts						
Mean Education	10.7	11.2	12.1	11.9	10.5	11.3
Std. Deviation	2.5	2.8	3.0	2.4	2.8	2.9
Total Number[a]	564	723	39	36	7.5	9.6

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.24

Black Males' Mean Education, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	8.2	9.8	9.7	10.0	7.8	10.0
Std. Deviation	3.2	3.1	3.2	2.9	3.9	0
Total Number[a]	315	224	34	37	4	1
Primary Subordinate						
Mean Education	8.7	10.6	11.2	12.1	12.2	11.6
Std. Deviation	3.4	2.8	2.9	2.1	2.0	2.3
Total Number[a]	331	455	82	77	6	9
Primary Independent						
Mean Education	13.0	12.7	16.3	15.2	10.2	10.3
Std. Deviation	4.4	2.9	1.8	2.8	4.2	5.3
Total Number[a]	23	52	24	42	18	17
Crafts						
Mean Education	8.4	11.1	12.7	11.1	9.5	11.4
Std. Deviation	3.4	2.5	4.5	1.1	1.3	4.3
Total Number[a]	35	62	6	10	4	8

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.25

White Females' Mean Education, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In Years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	10.0	10.6	8.9	10.7	14.8	11.6
Std. Deviation	2.5	2.4	3.1	2.6	2.2	1.1
Total Number[a]	540	789	8	48	4	12
Primary Subordinate						
Mean Education	11.2	11.7	12.2	12.5	11.2	11.9
Std. Deviation	2.2	2.2	1.8	1.8	2.4	1.7
Total Number[a]	1,713	2,281	206	378	40	86
Primary Independent						
Mean Education	13.8	14.0	15.8	16.0	11.9	13.1
Std. Deviation	2.2	2.3	1.7	1.9	2.6	2.2
Total Number[a]	313	571	221	538	34	58
Crafts						
Mean Education	12.4	11.7	17.5	-	13.7	13.0
Std. Deviation	2.6	3.1	1.8	-	2.1	1.7
Total Number[a]	32	42	6	-	11	3

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

TABLE 2.26

Black Females' Mean Education, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (In years)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Education	8.9	10.0	8.9	11.0	8.4	11.3
Std. Deviation	3.0	2.9	3.0	2.4	2.7	1.2
Total Number[a]	308	236	300	24	8	3
Primary Subordinate						
Mean Education	10.7	11.1	12.1	11.8	10.4	11.5
Std. Deviation	2.5	2.4	2.0	2.0	3.0	0.8
Total Number[a]	157	332	53	112	5	6
Primary Independent						
Mean Education	12.9	12.5	15.3	14.7	11.0	12.0
Std. Deviation	2.6	3.4	2.7	3.5	5.4	-
Total Number[a]	18	39	41	64	4	1
Crafts						
Mean Education	12.0	10.9	16.5	-	-	-
Std. Deviation	-	2.5	.7	-	-	-
Total Number[a]	3	10	2	-	-	-

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

In other words, it appears that even though both the private and public sector increased the percentage of blacks into higher level jobs rapidly between 1960 and 1970, they could not incorporate the additional black labor force into those jobs without a decline in the average education of employees. This was particularly true of the public sector, which, in 1960, already had a high percentage of blacks employed in professional jobs, and those employed in government had a much higher level of schooling than those in the private sector. Since, in absolute numbers, the public sector absorbed even more blacks than the private sector into higher level jobs, it is not surprising that the average schooling would decline more than in private employment.

Finally, we observe from Tables 2.19 - 2.22 that the average education in every occupational group of blacks and whites in the public sector was much more equal in both 1960 and 1970 than in the private sector. Indeed, as we pointed out, in 1960 the mean schooling of blacks was higher in that sector than whites'. Although there has been further equalization in the younger age groups in both sectors, average schooling was almost identical for the 25-34 year-old black and white males in the public sector in 1970 except in primary independent jobs, while in the private sector a substantial difference continued to exist. For young women in the public sector, however, the opposite effect seems to be taking place: a disequalization of education between whites and blacks over the ten years.

How Did Average Earnings Change in the Public and Private Sectors Between 1960 and 1970?

We have already shown that in 1970, all groups but white males earned more in the public than the private sector. For black men and both white and black women, this is not surprising if we believe that those with higher schooling should or would get paid more, since in all those groups, average education is higher in public sector jobs (Table 2.1). But white male education is also higher in the public sector, and yet they get paid less in that sector, on the average, in both middle level and professional jobs (Table 2.2). This means that the public sector may treat white men differently from minority groups and women, or, alternatively, that minority groups and women are treated less differently from white males in the public sector than in the private sector, and that white males receive less of a "premium" for being white males in the public sector than in the private. This will be the subject of the next chapter.

Besides the level of earnings in 1970, changes in public vs. private sector pay are important in understanding what has happened in these two sectors in recent years. In general, people believe that public sector pay has been rising more rapidly than wages in the private sector due to public sector union action, and a tendency for civil service promotion to be devoid of productivity guidelines. The National Journal (August 23, 1975), for example, presents data compiled by the Advisory Commission on Intergovernmental Relations (National Journal, p. 1199) which shows government earnings as a percentage of private industry earnings rising between 1960 and 1970 from an index of 102.4 to 112.2. Part of that increase may have been explained by a relative increase in education in the public sector, but as we have seen, the education of those working in the public sector did not rise any more or less rapidly than education levels in the private sector.

This means that either the Advisory Commission figures are the result of other factors, or that, in any reasonable occupational/sex/race disaggregation, incomes in the public sectors did not rise as rapidly as in the private sector during the sixties, or rose for some groups and not for others. Indeed, our census data show that, except for professional jobs (and even then, white women's salaries do not conform to this pattern -- their professional salaries rose more in the private than the public sector) salaries rose more rapidly in the private than in the public sector (Tables 2.27 - 2.30).

This pattern of wage increases meant different things for different groups. For white males, the average pay within our occupational segments was higher in the public sector in 1960 for all but professional jobs; by 1970, the more rapid rate of pay increase in the private sector had made the private sector more rewarding in all but menial jobs. In other words, the gap between private and public jobs had been closed in all but the lowest level jobs; in the highest level jobs, the gap was also somewhat closed, but public jobs began to catch up with much higher private salaries.

For other groups, the salary gaps were also decreased in all occupational categories, except that blacks -- both men and women -- in public sector professional jobs increased their average salary over their "counterparts" in the private sector. So we find that except for black professionals and white male professionals, the Advisory Commission findings are misleading; employees in the private sector did considerably better in the 1960s than those working for government. Of course, professionals form a significant fraction of all public employees, so that overall, public sector average salaries may have risen relative to private (Table 2.19). A rise in average education does not necessarily mean that productivity rose for that group of workers, but at least one of the characteristics for which both private and public employees are willing to pay higher salaries did increase. This is not so for black men and women professionals working in the public sector. Their average

TABLE 2.27

White Males' Mean Annual Earnings,[8] by Occupation and Sector, All Age Groups, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Earnings	2,602	3,247	3,141	3,713	328	1,709
Std. Deviation	2,162	-[b]	2,423	-	1,479	-
Total Number[a]	4,916	6,002	470	718	159	244
Primary Subordinate						
Mean Earnings	4,663	5,690	4,703	5,681	1,103	2,650
Std. Deviation	2,883	-	2,246	-	3,780	-
Total Number[a]	16,074	16,945	2,119	2,495	1,179	1,278
Primary Independent						
Mean Earnings	7,691	9,289	6,182	7,990	927	3,235
Std. Deviation	6,488	-	3,081	-	4,064	-
Total Number[a]	5,282	6,988	1,341	2,403	4,744	3,502
Crafts						
Mean Earnings	4,747	6,138	5,184	5,599	668	1,699
Std. Deviation	2,755	-	2,402	-	3,094	-
Total Number[a]	2,479	3,035	189	263	527	554

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

TABLE 2.28

Black Males' Mean Annual Earnings, by Occupation and Sector, All Age Groups, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Earnings	2,006	2,710	2,963	3,311	*	501
Std. Deviation	1,858	-[b]	1,443	-	*	-
Total Number[a]	1,514	1,261	164	266	29	21
Primary Subordinate						
Mean Earnings	2,808	3,928	3,637	4,645	*	1,065
Std. Deviation	1,786	-	1,776	-	*	-
Total Number[a]	1,244	1,606	230	388	45	60
Primary Independent						
Mean Earnings	3,621	5,296	4,286	6,685	148	1,234
Std. Deviation	2,746	-	1,777	-	791	-
Total Number[a]	81	150	64	137	183	89
Crafts						
Mean Earnings	2,808	4,009	3,524	4,298	11	546
Std. Deviation	1,945	-	1,686	-	67	-
Total Number[a]	134	263	21	31	36	43

Source: Based on statistical analyses of 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

* Mean Earnings (not income) reported by self-employed in these categories of work was zero or very close to zero.

TABLE 2.29

White Females' Mean Annual Earnings, by Occupation and Sector, All Age Groups, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Income	1,440	1,756	1,385	1,696	66	604
Std. Deviation	1,658	b	1,214	b	39	b
Total Number[a]	3,297	4,833	110	327	70	96
Primary Subordinate						
Mean Income	2,244	2,638	2,568	2,936	274	939
Std. Deviation	1,579	b	1,774	b	917	b
Total Number[a]	9,273	12,905	1,373	2,425	360	569
Primary Independent						
Mean Income	2,851	3,873	4,006	4,885	296	97
Std. Deviation	2,407	b	2,331	b	1,323	b
Total Number[a]	1,434	2,400	1,363	2,284	504	477
Crafts						
Mean Income	2,794	3,042	3,121	2,952	207	746
Std. Deviation	3,959	b	2,017	b	880	b
Total Number[a]	134	205	24	18	85	37

Source: Based on statistical analyses of 1960 and 1970 1/1000 Public Use Samples.

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

TABLE 2.30

Black Females' Mean Annual Earnings, by Occupation and Sector, All Age Groups, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Income	846	1,379	1,466	2,000	-	578
Std. Deviation	880	b	1,274	b		b
Total Number[a]	1,428	1,267	44	113	8	7
Primary Subordinate						
Mean Income	1,697	2,305	2,469	3,050	14	552
Std. Deviation	1,424	b	1,546	b	76	b
Total Number[a]	545	1,220	157	461	28	37
Primary Independent						
Mean Income	2,424	3,254	3,179	4,614	-	462
Std. Deviation	1,362	b	1,734	b	-	b
Total Number[a]	53	140	125	265	33	17
Crafts						
Mean Income	1,138	2,341	4,200	718	-	-
Std. Deviation	1,159	b	848	-	-	-
Total Number[a]	13	21	2	1	1	-

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

level of schooling fell, but average salaries increased (Tables 2.20 and 2.22). Even more surprising, the average level of schooling in the public sector of these two groups fell more than in the private sector, but average salary in the public sector increased much more rapidly.

It may be that our observations on salary increases are the result of changing age distributions in the public and private sectors in the nineteen-sixties. Indeed, this is partially true. We find, in analyzing salary changes among younger workers, 25-34 years-old, that the patterns are different than for all workers together in some groups.

The salaries of young white males rose faster than for all white males (Table 2.31) in both sectors, but the same pattern of wages and changes in wages obtains; the private sector wages increased more rapidly (38 vs. 26 percent) than government wages in the lowest paying jobs, rising to a level higher in the private than in the public sector by 1970 (the opposite of the whole white labor force); wages rose at approximately the same rate in the primary subordinate sector (25 vs. 27 percent increase) with private wages remaining higher than public, and public sector wages rose more rapidly in primary independent jobs (35 vs. 18 percent increase over ten years) but still remained lower than private mean wages in that job category.

For young black males, salaries rose so much more rapidly in the private than in the public sector in the sixties that for all job categories (even for professionals), private sector salaries have rapidly moved up to or even surpassed (in menial jobs) salaries in the public sector (Table 2.32).

These salaries -- both in the public and private sectors -- are still well below those for white males, but as far as differences between the two sectors, the indication from these changes for the younger

TABLE 2.31

White Males' Mean Annual Earnings by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Earnings	3,402	4,699	3,416	4,317	524	1,345
Std. Deviation	2,059	-[b]	1,486	-	1,274	-
Total Number[a]	856	925	71	90	21	39
Primary Subordinate						
Mean Earnings	4,828	6,038	4,640	5,908	1,193	3,078
Std. Deviation	2,327	-	1,617	-	3,602	-
Total Number	3,871	4,051	489	511	181	208
Primary Independent						
Mean Earnings	6,604	7,793	5,083	6,857	1,089	2,633
Std. Deviation	4,396	-	2,081	-	3,781	-
Total Number[a]	1,452	1,918	405	652	615	424
Crafts						
Mean Earnings	4,936	6,338	5,469	4,195	865	2,003
Std. Deviation	2,613	-	1,885	-	2,140	-
Total Number[a]	564	723	39	36	75	96

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

TABLE 2.32

Black Males' Mean Annual Earnings, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed*	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Earnings	2,344	3,599	2,897	3,360	-	-
Std. Deviation	2,601	-[b]	1,389	-	-	-
Total Number[a]	315	224	34	37	-	-
Primary Subordinate						
Mean Earnings	2,774	4,425	3,711	4,911	-	-
Std. Deviation	1,670	-	1,769	-	-	-
Total Number[a]	331	455	82	77	-	-
Primary Independent						
Mean Earnings	3,717	5,793	4,267	5,944	44	1,234
Std. Deviation	2,737	-	1,224	-	110	-
Total Number[a]	23	52	24	42	18	17
Crafts						
Mean Earnings	2,674	4,226	3,550	4,342	-	-
Std. Deviation	1,909	-	1,169	-	-	-
Total Number[a]	35	62	6	10	-	-

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in sample.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

* Number of observations in sample for secondary, primary subordinate, and crafts were so few that we did not report mean earnings.

TABLE 2.33

White Female's Mean Annual Earnings, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Income	1,515	1,846	1,438	1,798	-	439
Std. Deviation	2,140	b	1,060	b	-	b
Total Number[a]	540	789	8	48	4	12
Primary Subordinate						
Mean Income	2,348	2,762	2,463	3,019	308	678
Std. Deviation	1,559	b	1,807	b	890	b
Total Number[a]	1,713	2,281	206	378	40	86
Primary Independent						
Mean Income	2,707	3,764	3,505	4,751	197	1,269
Std. Deviation	2,057	b	1,888	b	712	b
Total Number[a]	313	571	221	538	34	58
Crafts						
Mean Income	2,819	2,348	3,800	-	118	1,654
Std. Deviation	2,026	b	1,538	-	392	b
Total Number[a]	32	42	6	-	11	3

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

TABLE 2.34

Black Females' Mean Annual Earnings, by Occupation and Sector, 25-34 Year-Old Age Group, 1960 and 1970 (in 1960 prices)

	Private Sector		Public Sector		Self-Employed	
	1960	1970	1960	1970	1960	1970
Secondary						
Mean Income	8,690	1,640	1,312	1,647	-	636
Std. Deviation	881	b	1,608	b	-	b
Total Number[a]	300	236	8	24	-	3
Primary Subordinate						
Mean Income	1,796	2,499	2,453	3,682	80	649
Std. Deviation	1,286	b	1,427	b	179	b
Total Number[a]	157	332	53	112	5	6
Primary Independent						
Mean Income	2,606	4,032	3,112	4,345	-	-
Std. Deviation	1,213	b	1,868	b	-	-
Total Number[a]	18	39	41	64	4	1
Crafts						
Mean Income	1,660	1,969	4,200	-	-	-
Std. Deviation	954	b	849	-	-	-
Total Number[a]	3	10	2	-	-	-

Source: Based on statistical analyses of the 1960 and 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

Note: a. "Total Number" refers to number in samples.

b. Standard Deviation not reported for 1970 because mean earnings are corrected to 1960 prices.

age group is that the differences are rapidly disappearing for black males, even in higher level jobs, a result not apparent from the means of all age groups together.

For some women, there also appears to be an equalization of salaries between sectors. In the lowest level jobs, salaries for women in the two sectors are essentially equal; in fact, there is little difference here between the races. In middle level jobs, the difference for young white women also got much smaller by 1970 (in fact, mean salary for this younger group was slightly higher than for all women together); but for young black women in middle level jobs and young white women in higher level jobs, the difference in salary between sectors did not decrease appreciably.

Some Preliminary Conclusions

Our data indicate some important differences between the public and private employment sectors:

1. The public sector -- even though it already employed a high percentage of higher educated minority groups and women in 1960 -- continued to expand its employment of these groups in professional and administrative positions in the sixties. More than 50 percent of white women and blacks who were added to the labor force in these higher level jobs during the decade entered the public sector.

2. Average education increased between 1960 and 1970 in almost all types of jobs and for all groups. Notable exceptions were the decline in average education in professional jobs for blacks, both in the public and private sectors, and in primary subordinate (production and clerk) jobs for black women working in the public sector. The greatest increases in education took place in the lowest level jobs, where education levels were particularly low in 1960.

3. Unlike other reports of relative increases in public sector salaries, we find that when we disaggregate race, sex, and occupation, salaries increased more rapidly in the private sector except for white male and black men and women professionals. For younger workers, only white male professional salaries rose more rapidly in the public than in the private sector. Even so, this pattern of salary increases explains in part the continued attractiveness of the public sector for minority group professionals and women. Despite decreasing differences in average salaries in the private and public sectors for young professionals, on average, for all ages workers, these differences persist in favor of the public sector for blacks and women. In part, the differences are explained by large differences in average schooling of black and women workers in the two sectors, but there are important exceptions to this explanation; for example, the average education of white male workers is higher in the private than in the public sector, yet those in the private sector receive a substantially higher average salary. In addition, the average education of blacks in professional jobs declined in the sixties, more in the public than in the private sector; even so, public sector salaries increased for these groups more rapidly than in the private sector.

These are preliminary patterns. In the next chapter, we go into these differences in more detail, focusing on the whole issue of differences in sex and race discrimination in the two sectors.

Appendix A

The Determination of Occupational Segments

Four occupational segments were chosen for analysis. Three of these-secondary, primary subordinate, and primary independent - are described in Carter and Carnoy (1974). We have added a fourth segment - crafts - following the analysis of Doeringer and Piore who describe the difference between the market of crafts and the primary subordinate internal labor markets (1971). Craft workers are usually hired on contract, working in different plants and different industries for a particular job contract. They are hired from a pool of craft workers. Thus they respond to traditional area-wide labor market variables, much as journeymen did in the early days of competitive capitalism. They are not governed by the rules of an internal labor market.

The source of data for determining the occupational division was a set of occupational data cards that meshed the 1960 Census Occupational classifications with characteristics of occupations as described in the Dictionary of Occupational Titles (1965) published by the Department of Labor (see Lucas 1973). For each occupational classification, information was collected on such things as the task definition of the occupation in relationship to other people (helping, serving, supervising, instructing, or nothing), the level of vocational training, the level of general educational development (GED), as well as other information. Since the number of occupational classifications was increased between the 1960 and 1970 Census from 297 to 441, 73 additional occupations were added to the initial data set using relevant information from the Dictionary of Occupational Titles.

These 370 occupations were then cross tabulated by task definition and level of vocational training. There were nine levels of training, ranging from "short demonstration time" to 4-5 years of vocational training (corresponding to the ninth level). Thus there were 45 possible categories although the actual number came out less because some categories did not contain any occupations.

The assigning of occupations to segments was done as follows: Occupations having a vocational training level of 1 or 2 within each task category were assigned to the secondary labor market segment. Those with high vocational training levels (6-9) were generally assigned to the primary independent segment. Those having intermediate levels of vocational training were assigned to the primary subordinate segment. There is some variation of this scheme between task categories. Those in the helping and serving categories tended to fall primarily in the secondary and primary subordinate segments while those in the supervising and instructing task categories fell predominately in the primary independent category. There are exceptions to this. Where the occupation clearly seemed to be characterized by the qualities of persons within a certain segment (as described in Carter and Carnoy, 1974), then the occupation was correspondingly assigned. Crafts were selected using the same procedure. If the characteristics of the occupation seemed more aligned with those of the craft segment than the primary subordinate segment, then the occupation was assigned to that segment.

The occupations for which we had no detailed information, were assigned to occupational segments by using the equivalent 1960 Census code and using that code to find the occupation that possessed similar characteristics. The complete occupational breakdown follows.

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(000)	NA					
(001)	Accountants	000	5	8	5	3
(002)	Architects	013	5	8	6	3
(003)	Computer Programmers	195				3*
(004)	Computer Systems Analyst	195				3*
(005)	Computer Specialists	195				3*
(006)	Engineer-Aeronautical	080	5	8	6	3
(101)	Engineer-Chemical	081	5	8	6	3
(011)	Engineer-Civil	082	5	8	5	3
(012)	Engineer-Electrical	083	5	8	6	3
(013)	Engineer-Industrial	084	5	7	5	3
(014)	Engineer-Mechanical	085	5	8	6	3
(015)	Engineer-Metallurgical	090	5	8	6	3
(020)	Engineer-Mining	091	5	8	5	3
(021)	Engineer-Petroleum	091				3
(022)	Engineer-Sales	092	5	8	6	3
(023)	Engineer-Others	093	5	8	5	3
(024)	Farm Management Advisor	102	4	7	5	3
(025)	Forester and Conservationist	103	5	7	5	3
(026)	Home Management Advisor	102				3*
(030)	Judges	105				3*
(031)	Lawyers	105	5	8	6	3
(032)	Librarians	111	5	7	5	3
(033)	Archivist and Curator	175	4	7	5	3
(034)	Actuaries	174	5	7	5	3
(035)	Mathematicians	135	5	8	6	3
(036)	Statisticians	174				3*
(042)	Agricultural Scientists	130	5	8	6	3
(043)	Atmospheric and Space	191				3
(044)	Biological Scientist	131	5	8	6	3
(045)	Chemists	021	5	8	6	3

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(051)	Geologists	134	5	8	6	3
(052)	Marine Scientists					3*
(053)	Physicists and Astronomers	140	5	8	6	3
(054)	Physical Scientists	145				3*
(055)	Operations and Systems Research	195				3*
(056)	Personnel Labor Relations	154	5	8	5	3
(061)	Chiropractors	022	5	7	5	3
(062)	Dentists	071	5	8	6	3
(063)	Optometrists	152	5	7	5	3
(064)	Pharmacists	160	5	7	5	3
(065)	Physicians-Osteopath	162	5	8	6	3
(071)	Podiatrists	193				3*
(072)	Veterinarians	194	4	8	5	3
(073)	Health Practitioner		5	7	4	3
(074)	Dietitians	073				3*
(075)	Registered Nurses	150	2	7	4	3
(076)	Therapists	193	2	7	4	3
(080)	Clinical Technicians	185				2*
(081)	Dental Hygienists	185				2*
(082)	Health Record Technicians	111				2*
(083)	Radiologic Technician	185				2*
(084)	Therapy Assistants	185				2*
(085)	Health Technicians	185				2*
(086)	Clergymen	023	5	8	6	3
(090)	Religious Workers	170	5	7	5	3
(091)	Economists	172	5	7	5	3
(092)	Political Scientists					3*
(093)	Psychologists	173	5	8	6	3
(094)	Sociologists					3*
(095)	Urban and Regulatory Planners	195				3*

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(096)	Social Scientists	175	5	7	5	3
(100)	Social Workers	171	5	7	5	3
(101)	Recreation Workers	165	4	8	5	3
(102)	Agriculture Teachers	030				3*
(103)	Atmospheric Teachers	030				3*
(104)	Biology Teachers		4	8	6	3
(105)	Chemistry Teachers		4	8	6	3
(110)	Physics Teachers		4	8	6	3
(111)	Engineering Teachers		4	8	6	3
(112)	Mathematics Teachers		4	8	6	3
(113)	Health Spe. Teachers	030				3*
(114)	Psychology Teachers		4	8	6	3
(115)	Business Teachers		4	8	6	3
(116)	Economics Teachers	030				3*
(120)	History Teachers	030				3*
(121)	Sociology Teachers	030				3*
(122)	Social Science Teachers		4	8	6	3
(123)	Art, Music Teachers		1	7	5	3
(124)	Physical Education Teachers	180				3*
(125)	Education Teachers	030				3*
(126)	English Teachers	030				3*
(130)	Foreign Language Teachers	030				3*
(131)	Home Economics Teachers					3*
(132)	Law Teachers	030				3*
(133)	Theology Teachers	030				3*
(134)	Trade Teachers	030				3*
(135)	Miscellaneous Teachers		4	8	6	3
(140)	Unspec. Teacher-University		4	8	6	3
(141)	Adult Education Teachers	184				3*
(142)	Elementary Teachers	182	4	6	5	3
(143)	Kindergarten Teachers	182				3*
(144)	Secondary Teachers	183	4	7	5	3

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(145)	Teacher Not in University	184	4	7	5	3
(150)	Agriculture and Biology Technicians	192				2*
(151)	Chemical Technicians		5	5	4	2
(152)	Draftsmen	074	1	7	5	2
(153)	Electrical Engineer Technician	190	5	7	5	3
(154)	Industry Engineer Technician	195				2*
(155)	Mechanical Engineer Technician	191				2*
(156)	Mathematical Technicians					2*
(161)	Surveyors	181	5	7	5	3
(162)	Engineering Science Technicians	191				2*
(163)	Airplane Pilots	012	5	6	5	3
(164)	Air Traffic Control	164				2*
(165)	Embalmers	104	4	7	5	3
(170)	Flight Engineers	471				3*
(171)	Radio Operators	164	5	4	4	2
(172)	Tool Programmers	191				2*
(173)	Technicians	192	5	5	4	2
(174)	Vocation-Education Counselor		4	7	4	3
(175)	Actors	010	5	7	5	4
(180)	Athletes and Kindred	015	5	6	3	4
(181)	Authors	020	5	7	5	4
(182)	Dancers	070	4	7	5	4
(183)	Designers	072	5	7	5	4
(184)	Editors and Reporters	075	5	7	5	3
(185)	Musicians and Composers	120	4	8	5	4
(190)	Painters and Sculptors	014				4*
(191)	Photographers	161	5	7	4	4
(192)	Public Relations and Writers	163	5	7	5	3
(193)	Radio, TV Announcers		1	4	4	4
(194)	Writers, Artists, Enterpreneurs	101	5	6	4	4
(195)	Unspec. Research Worker	195				2*
(196)	Professional-Allocators					3*

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(201)	Assessor, Public Administrator		4	7	4	3
(202)	Bank, Financial Manager		3	8	4	3
(203)	Buyer-Farm		5	7	5	3
(205)	Buyer-Trade		5	7	4	3
(210)	Credit Men	253	5	8	5	3
(211)	Funeral Directors	104				3*
(212)	Health Administrators		3	8	5	3
(213)	Construction Insp-Public Ad.		5	7	5	3
(215)	Inspector-Public Administrators	260				3*
(216)	Managers-Building	262	5	6	3	3
(220)	Office Managers	290				3*
(221)	Officer, Engineer-Ship.	265	3	8	4	3
(222)	Officials-Public Administrators	270	5	8	5	3
(223)	Official, Lodge, Union	275	5	8	5	3
(224)	Postmasters	280	5	7	4	3
(225)	Buyers, Purchasing Agents	285	5	7	4	3
(226)	Railroad Conductors	252	5	7	4	2+
(230)	Manager-Restaurant		3	6	4	3
(231)	Manager-Sales, Retail		3	8	5	3
(233)	Manager-Sales, Other	250				3*
(235)	College Administrators	030	5	9	6	3
(240)	School Administrators	183				3*
(245)	Managers and Administ., Nec.	290	5	7	4	3
(246)	Unfarm-Managers, Admin.-All	290				3*
(260)	Ad Agent and Salesmen	380	5	6	4	3
(261)	Auctioneers	381	5	6	3	3
(262)	Demonstrators	382	5	3	3	2
(264)	Huckster and Peddler	383	5	2	3	1
(265)	Insurance Agents	385	5	6	4	3
(266)	Newsboys	390	5	2	3	1
(270)	Real Estate Agents	393	5	6	4	3
(271)	Stocks and Bonds Salesmen	395	5	7	6	3

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(280)	Salesmen and Clerks		2	4	4	2
(281)	Sale-Rep, Manufacture	394	2	6	5	2+
(282)	Sale-Rep, Wholesale	394				2*
(283)	Sale-Clerk, Retail	394				2*
(284)	Salesmen, Retail		3	7	4	2+
(285)	Salesmen, Services	394				2*
(296)	Sale Worker-Allocators					2*
(301)	Bank Tellers	305	5	5	4	2
(303)	Billing Clerks		1	4	3	2
(305)	Bookkeepers	310	1	6	4	2
(310)	Cashiers	312	5	2	3	1
(311)	Clerical Assistants		5	4	3	2
(312)	Clerical Supervisors	370				2*
(313)	Collectors	313	5	4	3	2
(314)	Counter Clerks		2	5	4	2
(315)	Dispatchers Vehicle	314	5	6	3	2+
(320)	Interviewers		1	3	4	2
(321)	Investigators		1	4	5	2
(323)	Expediters Controllers		1	4	4	2
(325)	File Clerks	320	5	3	3	2
(326)	Insurance Adjusters	321	5	8	5	3
(330)	Library Attendants	302	5	4	4	2
(331)	Mail Carriers, Post	323	5	3	3	2
(332)	Mail Handlers	370				2*
(333)	Messengers	324	2	2	2	1
(334)	Meter Readers		1	4	3	2
(341)	Bill-Machine Operators	325				2*
(342)	Cal-Machine Operators	325				2*
(343)	Computer Operators		1	6	4	2
(344)	Dup-Machine Operators	325				2*
(345)	Keypunch Operators		1	4	3	2
(350)	Tab-Machine Operators	325				2*

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(350)	Tab-Machine Operators	325				2*
(355)	Off-Machine Operators	325	1	4	3	2
(360)	Payroll Clerks	333	1	5	4	2
(361)	Postal Clerks	340	5	4	4	2
(362)	Proofreaders		1	4	3	2
(363)	Real Estate Appraisers	301				3*
(364)	Receptionists	341	5	5	3	2
(370)	Secretaries, Legal		2	6	4	2+
(371)	Secretaries, Medical	342				2*
(372)	Secretaries	342	5	6	4	2+
(374)	Shipping Clerks	343	1	3	3	2
(375)	Statistical Clerks	370				2*
(376)	Stenographers	345	5	5	3	2
(381)	Stock Clerks	350	1	5	3	2
(382)	Teacher Aides	195				2*
(383)	Telegraph Messengers	351	5	2	3	1
(384)	Telegraph Operators	352	5	4	3	2
(385)	Telephone Operators	353	5	3	3	2
(390)	Ticket Station Agent	354	5	5	4	2
(391)	Typists	360	5	4	3	2
392	Weighers		1	2	2	1
(394)	Miscellaneous Clerical Workers	370				2*
(395)	Unspec. Clerical Workers	370				2*
(396)	Clerical-Allocated					2*
(401)	Auto Accessory Installers		1	4	2	2
(402)	Bakers	401	1	7	3	2
(403)	Blacksmiths	402	1	7	4	4
(404)	Boilermakers	403	5	7	4	4
(405)	Bookbinders	404	1	6	3	4
(410)	Brickmasons	405	1	8	3	4
(411)	Brickmasons Apprentices	602	1	8	3	4
(412)	Bulldozer Operators		1	5	3	2

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(413)	Cabinetmakers	410	1	6	4	4
(415)	Carpenters	411	1	8	4	4
(416)	Carpenter Apprentices	603	1	7	4	4
(420)	Carpet Installers		2	7	3	2+
(421)	Cement Finishers	413	5	6	3	4
(422)	Compositors, Typesetters	414	1	8	4	4
(423)	Printing Apprentices	615	1	8	4	4
(424)	Cranemen	415	5	5	3	2
(425)	Decorators	420	1	7	5	2
(426)	Dental Lab Technicians	185				2*
(430)	Electricians	421	5	7	4	4
(431)	Electricians Apprentices	604	5	7	4	4
(433)	Electric Cablemen		1	7	4	2
(434)	Electrotypers	423	5	8	3	4
(435)	Engravers	424	1	8	4	4
(436)	Excavating Machine Operators	425				2*
(440)	Floor Layers		2	6	3	2+
(441)	Foremen		3	7	4	2+
(442)	Forgemen	431	5	6	3	2+
(443)	Furniture		1	4	3	2
(444)	Furriers	432	5	8	4	4
(445)	Glaziers	434	1	7	3	4
(446)	Heat Treaters	435	1	7	4	4
(450)	Inspector-Scaler-Log	444	1	4	3	2
(452)	Inspectors, Nec.		5	6	4	2
(453)	Jewelers and Watchmakers	451	1	8	4	4
(454)	Job and Die Setters	452	1	7	4	4
(455)	Locomotive Engineers	454	5	7	4	3
(456)	Locomotive Firemen	460	5	7	4	3
(461)	Machinists	465	1	7	4	2
(462)	Machinists-Apprentices	605	1	7	4	2
(470)	Mechanics-Air Conditioning	470	5	8	4	2+

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(471)	Mechanics-Aircraft	471	1	7	4	2
(472)	Mechanics-Autobody	472				2*
(473)	Mechanics-Auto	472	1	7	4	2
(474)	Mechanics-Auto Apprentices	601	1	7	4	2
(475)	Mechanics-Data Machines		1	7	4	2
(480)	Mechanics-Farm Implementation	480				2*
(481)	Mechanics-Heavy Equipment	480				2*
(482)	Mechanics-Household	480				2*
(483)	Mechanics-Loom Fixer	461	5	7	4	2+
(484)	Mechanics-Office Machines	473				2*
(485)	Mechanics-Radio, TV	474	1	4	4	2
(486)	Mechanics-Railroad	475	1	7	4	2
(491)	Mechanics-Apprentices	610	1	7	4	2
(492)	Mechanics-Miscellaneous		1	7	4	2
(495)	Mechanics-Unspecified	480				2*
(501)	Millers, Grain, Flour	490	1	2	2	1
(502)	Millwrights	491	1	7	4	2
(503)	Molders, Metal	492	1	7	4	2
(504)	Molder Apprentices	614				2*
(505)	Motion Picture Projectionists	493	5	6	4	2+
(506)	Opticians	494	5	6	3	3
(510)	Painters-Construction	495	1	7	3	4
(511)	Painter-Apprentices	613				4*
(512)	Paperhangers	501	1	7	3	4
(514)	Patternmakers	502	1	7	4	2
(515)	Photoengravers	503	1	8	4	2
(516)	Piano-Organ Tuners	504	5	6	4	3
(520)	Plasterers	505	5	7	3	4
(521)	Plasterer-Apprentices		1	7	3	4
(522)	Plumber, Pipe Fitters	510	1	7	4	4
(523)	Plumber-Apprentices	612	1	7	4	4
(525)	Power Station Operators	701	5	7	4	3

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(530)	Pressmen, Plate Printers	512	1	7	4	2
(531)	Pressmen-Apprentices	615				2*
(533)	Roller, Finisher, Metal	513	5	3	2	2
(534)	Roofers and Slaters	514	1	7	3	2
(535)	Sheetmetal, Tinsmiths		1	7	4	2
(536)	Sheetmetal-Apprentices		1	7	3	2
(540)	Shipfitters		1	8	4	2
(542)	Shoe Repairmen	515	5	7	3	3
(543)	Sign Painter, Letters		1	7	4	2
(545)	Stationary Engineers	520	1	7	4	2
(546)	Stonecutter, Carver	521	1	7	4	4
(550)	Structural Metal Craft	523	1	7	3	2
(551)	Tailors	524	1	7	4	4
(552)	Telephone Installers and Repair	453				2*
(554)	Telephone Linemen, Splicers	453				2*
(560)	Tile Setters		1	7	3	4
(561)	Tool and Diemakers	530	1	7	4	4
(562)	Tool, Die-Apprentices		1	7	4	4
(563)	Upholsterers	535	1	3	2	2
(571)	Spec. Craft-Apprentices	620	1	8	4	4*
(572)	Unspec.-Apprentices	621				4*
(575)	Craftsmen, Kindred Workers		4	1	6	4*
(580)	Member of Armed Forces	555				
(586)	Craftsmen, Kindred-All					4*
(601)	Asbestos and Insulators	630	1	3	3	2
(602)	Assemblers	631	1	2	2	1
(603)	Blasters and Powdermen	634	5	7	3	4
(604)	Bottling and Canning		1	2	2	1
(605)	Chainmen, Rodmen, Axelmen	642	5	4	3	2
(610)	Checkers, Examiners	643	1	2	2	1
(611)	Ironers and Pressers		1	4	3	2
(612)	Cutting Operatives		1	2	2	1

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(613)	Dressmakers	651	1	6	3	2
(614)	Drillers, Earth		1	4	3	2
(615)	Drywall Installers		1	5	3	2
(620)	Dyers	652	1	3	2	2
(621)	Filers, Polishers	653	1	3	2	2
(622)	Furnacemen, Smeltermen	670	1	3	2	2
(623)	Garage Workers		1	1	1	1
(624)	Graders and Sorters	671	1	2	2	1
(625)	Produce Grader, Packager	654	1	2	2	1
(626)	Heaters, Metal	672	1	2	2	1
(630)	Laundry Operatives	674	1	2	2	1
(631)	Meat Cutter-Not Manufacturer	675	1	6	3	2
(633)	Meat Cutter, Butcher		1	6	3	2
(634)	Meat Wrappers, Retail	693				2*
(635)	Metal Platers	775				2*
(636)	Milliners	680	1	5	2	2
(640)	Mine Operatives	685	1	4	3	2
(641)	Mixing Operatives	775				2*
(642)	Oilers and Greasers	692	1	3	2	2
(643)	Packers, Exc. Meat	693	1	2	2	1
(644)	Painter, Manufacturer Article	694	1	5	3	2
(645)	Photographic Processors	695	1	7	4	2
(650)	Drill Press Operators		1	4	3	2
(651)	Grinding Machine Operators		1	7	4	2
(652)	Lathe, Milling Machine Operators		1	3	2	2
(653)	Precision Machine Operators		1	7	4	2
(656)	Punch, Stamp Press Operators	775				2*
(660)	Rivertor, Fastener		1	2	2	1
(661)	Sailor, Deckhand	703	1	4	2	2
(662)	Sawyers	704	1	4	3	2
(663)	Sewers, Stitchers	705	1	4	3	2
(664)	Shoemaking Machine Operator		1	4	2	2

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(665)	Solderers		1	4	3	2
(666)	Stationary Firemen	712	1	4	4	2
(670)	Carding, Lapping Operators		1	2	2	1
(671)	Knitters, Looper Operators	673	5	3	2	2
(672)	Spinner, Twister Operators		1	2	2	1
(673)	Weavers	720	1	5	3	2
(674)	Textile Operatives		1	2	2	1
(480)	Welder, Flame-cutters	721	1	6	3	2
(681)	Winding Operatives		1	2	2	1
(690)	Machine Operators, Misc. Spec.	775				2*
(692)	Unspec. Machine Operators	775				2*
(694)	Miscellaneous Operatives	775				2*
(695)	Unspec. Operatives	775				2*
(696)	Oper., Exc. Trans-Alloc.					2*
(701)	Boatmen, Canalmen	635	5	5	3	2
(703)	Busdrivers	641	5	5	3	2
(704)	Conductor, Motormen		5	5	3	2
(705)	Deliverymen, Routemen	650	5	5	3	2
(706)	Fork Lift, Tow Motor		1	3	3	2
(710)	Motormen, Mine, Factory	690	5	4	3	2
(711)	Parking Attendants	632	1	3	3	1+
(712)	Railroad Brakemen	640	1	4	3	2
(713)	Railroad Switchmen	713	5	2	2	1
(714)	Taxicab Drivers	714	5	3	3	2
(715)	Truck Drivers	715	5	3	3	2
(726)	Transportation-Equip. Oper.-All					2*
(740)	Animal Caretakers		1	4	3	2
(750)	Carpenters' Helpers		1	1	1	1
(751)	Construction Laborer	985				1*
(752)	Fishermen, Oystermen	962	1	4	2	2
(753)	Freight, Material Handlers		1	2	2	1
(754)	Garbage Collectors		1	1	1	1

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code^a	People Rela.^{b}	Voc. Training^b	Modal GED^b	Occup. Segment^c
(755)	Gardener, Groundskeeper	964	1	2	2	1
(760)	Longshoremen, Stevedor	965	5	2	2	1
(761)	Lumbermen, Raftsmen	970	1	5	2	2
(762)	Stockhandlers	985				1*
(763)	Teamsters	971	1	3	3	2
(764)	Car Washer, Equipment Cleaner	985				1*
(770)	Warehousemen	973	1	2	2	1
(780)	Miscellaneous Laborers	985				1*
(785)	Unspec.-Laborers	985				1*
(786)	Laborers-Not-Farm-All					1*
(801)	Farmers	200	5	7	4	3
(802)	Farm Managers	222	5	7	4	3
(806)	Farmer, Manager-Allocated	-				3*
(821)	Farm Foremen	901	5	7	4	2
(822)	Farm Labor-Paid		1	5	3	1+
(823)	Farm Labor-Unpaid		1	5	3	1+
(824)	Farm Labor-Self	905	1	5	3	3
(846)	Farm Labor-Foremen-All					2*
(901)	Chambermaid-Exc. Private	823	1	2	2	1
(902)	Cleaner and Charwomen		1	2	2	1
(903)	Janitors and Sextons	834	1	2	2	1
(910)	Bartenders	815	2	3	3	2
(911)	Busboys		1	2	1	1
(912)	Cooks-Exc. Private	825	5	7	4	2+
(913)	Dishwashers		1	2	2	1
(914)	Food Counter, Fountain		2	3	2	1
(915)	Waiters	875	2	3	3	1
(916)	Food Service-Unprivate	835				2*
(921)	Dental Assistants	303	1	6	4	2
(922)	Health Aides-Not-Nurses		2	4	3	2
(923)	Health Trainees		2	4	4	2
(924)	Lay Midwives	840				4*

1970 Occup. Code	1970 Occupational Description	Equiv. 1960 Code[a]	People Rela.[b]	Voc. Training[b]	Modal GED[b]	Occup. Segment[c]
(925)	Nursing Aide, Orderlies		2	4	4	2
(926)	Practical Nurses	842	2	4	4	2
(931)	Airline Stewardesses		2	3	3	2
(932)	Attendants, Recreation	813	2	2	2	1
(933)	Attendants, Personal Service	812	2	2	3	1
(834)	Baggage Porters	841	1	2	2	1
(935)	Barbers	814	2	5	3	2
(940)	Boarding	821	2	2	3	1
(941)	Bootblacks	820	2	2	2	1
(942)	Child Care-Unprivate		3	3	3	2
(943)	Elevator Operators	831	5	2	2	1
(944)	Cosmetologists	843	2	6	4	2+
(945)	Personal Service-Apprentices	620				2*
(950)	Housekeeper, Unprivate	832	3	6	3	3
(952)	School Monitors		5	2	2	1
(953)	Ushers, Amusement	874	2	2	2	1
(954)	Welfare Service Aid	890				2*
(960)	Crossing Guards	860				1*
(961)	Firemen, Fire Protect	850	5	6	3	2+
(962)	Guards and Watchmen	851	5	3	3	2
(963)	Marshal and Constables	852	5	4	3	2
(964)	Policemen and Detectives		5	4	3	2
(965)	Sheriffs and Bailiffs	854	5	4	3	2
(976)	Sev-Wrk, Exc. Private-All		2	2	2	1
(980)	Private-Child Care		2	2	2	1
(981)	Private-Cooks		2	6	3	2+
(982)	Private-Housekeepers		2	3	3	1
(983)	Private-Laundresses	803	1	2	2	1
(984)	Private-Servants, Maid	804				1*
(986)	Private-Houseworker-All		2	3	3	1
(991)	Unemployed Persons					
(995)	Occupation Not Report/					

[a] Source: U.S. Bureau of the Census, 1970 Occupation and Industry Classification Systems in Terms of Their 1960 Occupation and Industry Elements, by John A. Priebe, Joan Heinkel, and Stanley Greene (Technical Paper No. 26), U.S. Government Printing Office, Washington, D.C., 1972.

[b] PEOPLE RELAT. - Relationship to People

1: Helping
2: Serving
3: Supervising
4: Instructing
5: Nothing

VOC. TRAINING - Level of Specific Vocational Training.

MODAL GED - General Level of Educational Development (Formal Schooling).

Source: Robert Lucas, Working Conditions, Wage Rates, and Human Capital: A Hedonic Study, unpublished Ph.D. thesis, M.I.T., 1973. An additional 73 occupation codes were added to the 297 1960 codes received.

[c] OCCUP. SEGMENT - Occupational Segment

1: Secondary
2: Primary Subordinate
3: Primary Independent
4: Crafts

*Detailed characteristics of occupation not available. Occupational segment determined by examining equivalent 1960 code and comparing it to occupations with similar characteristics.

+Exceptions to basic occupational classification scheme (see text).

The Determination of Industrial Segments

The industrial sector was divided into two basic segments - competitive and non-competitive. This division was arrived at in the following manner: Data was received that described 119 industry categories by such variables as assets per worker, unemployment, composition of the labor force within the industry, and sales volume.[9] We selected on particular variable with which to determine the relative concentration of firms within each industry - a variable which measures average market power. This variable renders the percentage of total business receipts accounted for by the sales of the firms in the top two asset categories in each industry. The variable for average market power averages the market power variable for the years 1958, 1961, and 1965. Industries that showed a concentration greater than 40% were categorized as non-competitive and those with a concentration of less than 40% were categorized as competitive. Since the 1970 Census used 227 industry codes, these codes had to be related to the 1960 Census codes by which the previously described data were identified.[10] Industrial categories for which there was no data were deemed competitive.

1970 Industrial Classification by 1960 Census Code, Average Market Power and Industry Segment

1970 Industry Code[a]	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	AGRICULTURE, FORESTRY AND FISHERIES			
017	Agricultural production	016	10.21	0
018	Agricultural services, except horticulture	016	10.21	0
019	Horticultural services	016	10.21	0
027	Forestry	017	24.84	0
028	Fisheries	018	9.23	0
029	Agriculture, forestry, fisheries - allocated	999	-	0
	MINING			
047	Metal mining	126	60.63	1
048	Coal mining	136	32.24	0
049	Crude petroleum and natural gas extractions	146	44.25	1
057	Nonmetallic mining, except fuel	156	14.88	0
058	Mining - Allocated	999	-	0
	CONSTRUCTION			
067	General building contractors	196	2.16	0
068	General contractors, except building	196	2.16	0
069	Special trade contractors	196	2.16	0
077	Not specified construction	196	2.16	0
078	Construction - allocated	999	-	0

1970 Industry Code[a]	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	MANUFACTURING - DURABLE GOODS			
	Lumber and Wood Products, except Furniture			
107	Logging	206	23.71	0
108	Sawmills, mill work	207	23.71	0
109	Miscellaneous wood products	208	17.75	0
118	Furniture and fixtures	209	8.93	0
	Stone, Clay and Glass Products			
119	Glass and glass products	216	55.77	1
127	Cement and plaster products	217	25.25	0
128	Structural clay products	218	16.75	0
137	Pottery and related products	219	23.87	0
138	Miscellaneous stone, clay and glass products	236	46.33	1
	Metal Industries			
139	Blast furnaces, steel works	237	71.80	1
147	Other steel industries	238	0	0
148	Primary aluminum industries	239	53.41	1
149	Other nonferrous industries	239	53.41	1
157	Cutlery and hand tools	246	15.81	0
158	Fabricated structural steel products	247	10.44	0
159	Screw machine products	248	23.72	0
167	Metal stamping	248	23.72	0
168	Miscellaneous fabricated metal products	248	23.72	0
169	Not specified metal industries	249	0	0

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	Machinery, except Electrical			
177	Engines and turbines	258	18.16	0
178	Farm machinery and equipment	256	73.89	1
179	Construction and material hand machines	258	18.16	0
187	Metal working machinery	258	18.16	0
188	Office and accounting machines	257	72.67	1
189	Electronic computing equipment	257	72.67	1
197	Machinery, except electrical	258	18.16	0
198	Not specified machinery	258	18.16	0
	Electrical Machinery, Equipment and Supplies			
199	Household appliances	259	52.04	1
207	Radio, TV and communication equipment	259	52.04	1
208	Electrical machinery, equipment and supplies, n.e.c.	259	52.04	1
209	Not specified, electrical	259	52.04	1
	Transportation Equipment			
219	Motor vehicles and motor vehicle equipment	267	87.86	1
227	Aircraft and parts	268	84.06	1
228	Ship and boat building and repairing	269	40.55	1
229	Railroad locomotives and equipment	276	45.83	1
237	Mobile dwellings and campers	276	45.83	1
238	Cycles and miscellaneous transportation equipment	276	45.83	1

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	Professional and Photographic Equipment and Watches			
239	Scientific and controlling instruments	286	25.47	0
247	Optical and health services supplies	286	25.47	0
248	Photographic equipment and supplies	287	66.99	1
249	Watches, clocks and clock devices	289	63.95	1
257	Not specified professional equipment	286	25.47	0
258	Ordnance	296	0	0
259	Miscellaneous Manufacturing Industries	296	0	0
267	Manufacturing, Durable Goods - Allocated	296	0	0
	MANUFACTURING - NONDURABLE GOODS			
	Food and Kindred Products			
268	Meat products	306	34.02	0
269	Dairy products	307	40.55	1
278	Canning and preserving	308	27.48	0
279	Grain - mill products	309	38.66	0
287	Bakery products	316	25.06	0
288	Confectionery and related products	317	24.60	0
289	Beverage industries	318	34.92	0
297	Miscellaneous food preparation	319	35.25	0
298	Not specified food industries	326	0	0
299	Tobacco Manufacturers	329	89.67	1

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	Textile Mill Products			
307	Knitting mills	346	13.23	0
308	Dyeing and finishing, except knit goods	347	17.44	0
309	Floor coverings, except hard surface	348	31.68	0
317	Yarn, thread and fabric mills	349	38.71	0
318	Miscellaneous textile mill products	356	35.47	0
	Apparel and Other Fabricated Textile Products			
319	Apparel and accessories	366	4.49	0
327	Miscellaneous fabricated textile products	367	10.43	0
	Paper and Allied Products			
328	Pulp, paper and paperboard mills	386	58.58	0
329	Miscellaneous paper and pulp products	389	21.47	0
337	Paperboard containers and boxes	387	15.59	0
	Printing, Publishing and Allied Industries			
338	Newspaper publishing and printing	396	21.17	0
339	Printing, except newspaper	398	9.29	0
	Chemicals and Allied Products			
347	Industrial chemicals	409	57.47	1
348	Plastics, synthetics, except fabrics	409	57.47	1

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
349	Synthetic fibers	406	73.31	1
357	Drugs and medicines	407	62.39	1
358	Soaps and cosmetics	409	57.47	1
359	Paints, varnishes and related products	408	38.19	0
367	Agricultural chemicals	409	57.47	1
368	Miscellaneous chemicals	409	57.47	1
369	Not specified chemicals and allied products	409	57.47	1
	Petroleum and Coal Products			
377	Petroleum refining	416	93.47	1
378	Miscellaneous petroleum and coal products	419	30.72	0
	Rubber and Miscellaneous Plastic Products			
379	Rubber products	426	61.73	1
387	Miscellaneous plastic products	429	9.60	0
	Leather and Leather Products			
388	Tanned, curried and finished leather	436	8.73	0
389	Footwear, except rubber	437	24.68	0
397	Leather products, except footwear	438	8.70	0
399	Manufacturing, nondurable goods - Allocated	999	0	0
398	Not Specified Manufacturing Industries	459	0	0

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	TRANSPORTATION, COMMUNICATIONS AND OTHER PUBLIC UTILITIES			
	Transportation			
407	Railroads and railroad express service	506	92.57	1
408	Street railways and bus lines	507	14.76	0
409	Taxicab service	508	28.33	0
417	Trucking service	509	2.75	0
418	Warehousing and storage	516	2.75	0
419	Water transportation	517	21.78	0
427	Air transportation	518	71.05	1
428	Pipelines, except natural gas	519	37.50	0
429	Services identical to transportation	526	16.83	0
	Communications			
447	Radio broadcasting and television	536	53.48	1
448	Telephone (wire and radio)	538	95.90	1
449	Telegraph and miscellaneous	539	78.36	1
	Utilities and Sanitary Services			
467	Electric light and power	567	94.42	1
468	Electric/gas utilities	569	94.87	1
469	Gas and steam supply systems	568	82.95	1
477	Water supply	576	14.02	0
478	Sanitary services	578	14.02	0
479	Other and not specified utilities	579	0	0
499	Transportation, Etc. - Allocated	999	0	0

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
	WHOLESALE AND RETAIL TRADE			
	Wholesale Trade			
507	Motor vehicles and equipment	606	33.50	0
508	Drugs, chemicals and allied products	607	27.74	0
509	Dry goods and apparel	608	3.99	0
527	Food and related products	609	1.46	0
528	Farm products - raw materials	616	21.98	0
529	Electrical goods	617	8.93	0
537	Hardware, plumbing and heating supplies	617	8.93	0
538	Not specified electric and hardware products	617	8.93	0
539	Machinery equipment and supplies	618	5.90	0
557	Metals and minerals	626	0	0
558	Petroleum products	619	0	0
559	Scrap and waste materials	626	0	0
567	Alcoholic beverages	626	0	0
568	Paper and its products	626	0	0
569	Lumber and construction materials	626	0	0
587	Wholesalers	626	0	0
588	Not specified wholesale trade	629	0	0
599	Wholesale trade - allocated	999	0	0
	Retail Trade			
607	Lumber and building material retailing	676	4.27	0
608	Hardware and farm equipment stores	666	3.75	0
609	Department and mail order establishments	638	42.85	1
617	Limited price variety stores	639	63.44	1
618	Vending machine operators	638	42.85	1
619	Direct selling establishments	638	42.85	1

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
627	Miscellaneous general merchandise stores	638	42.85	1
628	Grocery stores	636	38.82	0
629	Dairy products stores	637	38.82	0
637	Retail bakeries	636	38.82	0
638	Food stores	636	38.82	0
639	Motor vehicle dealers	656	1.98	0
647	Tire, battery and accessory dealers	656	1.98	0
648	Gasoline service stations	657	3.95	0
649	Miscellaneous vehicle dealers	656	1.98	0
657	Apparel and accessories stores, except shoes	646	6.68	0
658	Shoe stores	647	0	0
667	Furniture and home furnishing stores	648	6.32	0
668	Household appliances, TV and radio	649	6.32	0
669	Eating and drinking places	659	5.73	0
677	Drugstores	658	15.05	0
678	Liquor stores	678	12.20	0
679	Farm and garden supply stores	689	0	0
687	Jewelry stores	686	5.18	0
688	Fuel and ice dealers	687	0	0
689	Retail florists	679	0	0
697	Miscellaneous retail stores	689	0	0
698	Not specified retail trade	696	0	0
699	Retail trade - allocated	999	0	0
	FINANCE, INSURANCE AND REAL ESTATE			
707	Banking	706	51.80	1
708	Credit agencies	706	51.80	1
709	Security, commodity brokerage	716	6.49	0
717	Insurance	726	75.92	1

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
718	Real estate	736	3.32	0
719	Finance, etc. - allocated	999	0	0
	BUSINESS AND REPAIR SERVICE			
727	Advertising	806	18.98	0
728	Services to buildings	807	5.60	0
729	Commercial research and development	807	5.60	0
737	Employment and temporary help agencies	807	5.60	0
738	Business management and consulting services	807	5.60	0
739	Computer programming services	807	5.60	0
747	Detective and protective services	807	5.60	0
748	Business services - other	807	5.60	0
749	Automobile services, except repair	808	8.65	0
757	Automobile repair and related services	808	8.65	0
758	Electrical repair shops	809	6.20	0
759	Miscellaneous repair services	809	6.20	0
767	Business and repair services - allocated	999	0	0
	PERSONAL SERVICES			
769	Private households	816	0	0
777	Hotels and motels	826	13.07	0
778	Lodging places, except hotels and motels	826	13.07	0
779	Laundering	828	7.47	0
787	Beauty shops	838	3.55	0
788	Barber shops	838	3.55	0
789	Shoe repair shops	836	6.20	0
797	Dressmaking shops	829	0	0

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
798	Miscellaneous personal services	839	0	0
799	Personal services - allocated	999	0	0
	ENTERTAINMENT AND RECREATION SERVICES			
807	Theaters and motion pictures	846	10.62	0
808	Bowling alleys, billiard and pool parlors	848	4.73	0
809	Miscellaneous entertainment and recreational services	849	4.73	0
817	Entertainment and recreational services - allocated	999	0	0
	PROFESSIONAL AND RELATED SERVICES			
828	Offices of physicians	867	0	0
829	Offices of dentists	867	0	0
837	Offices of chiropractors	867	0	0
838	Hospitals	868	0	0
839	Convalescent institutions	867	0	0
847	Offices of health practitioners - other	867	0	0
848	Health services - other	867	0	0
849	Legal services	869	0	0
857	Elementary and secondary schools	876	0	0
858	Colleges and universities	876	0	0
859	Libraries	876	0	0
867	Educational services - other	876	0	0
868	Not specified educational services	876	0	0
869	Museums, art galleries, and zoos	876	0	0
877	Religious organizations	879	0	0
878	Welfare services	879	0	0

1970 Industry Code	1970 Industrial Classification Description	Equivalent 1960 Code[a]	Average Market[b] Power (%)	Industry Segment[c]
879	Residential welfare facilities	879	0	0
887	Nonprofit membership organizations	888	0	0
888	Engineering and architectural services	896	0	0
889	Accounting, auditing and bookkeeping	897	0	0
897	Miscellaneous professional and related services	898	0	0
899	Professional and related services - allocated	999	0	0
	PUBLIC ADMINISTRATION			
907	Postal service	906	0	0
917	Federal public administration	916	0	0
927	State public administration	926	0	0
937	Local public administration	936	0	0
947	Public administration - allocated	999	0	0
997	Unemployed Persons	-	-	-
999	Industry Not Reported	999	0	0

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[a] See: U.S. Bureau of the Census, 1970 Occupation and Industry Classification Systems in Terms of Their 1960 Occupation and Industry Elements, by John A. Priebe, Joan Heinkel, and Stanley Greene (Technical Paper No. 26), U.S. Government Printing Office, Washington, D.C., 1972.

[b] Percent of sales accounted for by top two categories of firms ranked by assets -- an alternative index of industrial concentration averaged for 1958, 1961, 1965 -- computed for 1960 codes. Source: This variable was devised by Barry Bluestone while working for the Institute of Labor and Industrial Relations at the University of Michigan. A zero means no calculation was made.

[c] 0 - Competitive: Average market power <40%.
1 - Non-Competitive: Average market power >40%.

Footnotes - Chapter 2

1. We have defined the meaning of the occupational segments in Carter and Carnoy (1974). The exact formulation of the occupational and industrial segments from the 1970 U.S. Census classifications and the detailed tables of all occupation and industry categories is included as Appendix A to Chapter 2 of this report (Education and Public Sector Employment). A brief description follows:

The industrial sector was divided into competitive and non-competitive segments using data received from Barry Bluestone, William Murphy, and Mary Stevenson from the Institute of Labor and Industrial Relations, University of Michigan. We selected the variable of "average market power" in each industry category with which to determine the relative concentration of firms within each industry. Industries that showed a concentration of AMP greater than 40% were categorized as non-competitive and those less than 40% were categorized competitive.

The occupational sector was divided into four segments using data from the thesis of Robert Lucas (1973) which linked certain characteristics of jobs as described in the Dictionary of Occupational Titles to the classifications used by the Bureau of the Census. We used the variable of Specific Vocational Preparation (SVP) -- 9 categories -- and Relationship to People (RP) -- 5 categories -- with which to divide people into the secondary, primary subordinate and primary independent sectors.

The General Educational Development (GED) associated with each job in the census classification was purposely left out of our categorization scheme since we use worker's education as a variable in our mobility and earnings regressions. Secondary occupations were defined as those with modal SVP equal to 1 or 2 (demonstration time to 30 days training required for the job) and RP equal to "helping" or "serving." Primary subordinate jobs were defined as SVP equal to 6, 7, or 8 and RP to helping. Primary independent jobs were defined as those with SVP equal to 6 through 9 and RP equal to serving, supervising, instructing, or "no classification." As mentioned above, some occupations were categorized as "crafts" because of high levels of training and our assumption about the labor market for such jobs.

Examples of a few census categories and their corresponding segment classification are:

1970 Occup. Code	1970 Occupational Description	Occupational Segment
012	Engineers- Electrical	Primary Independent
031	Lawyers	Primary Independent
144	Secondary Teachers	Primary Independent
182	Dancers	Crafts
220	Office Managers	Primary Independent
310	Cashiers	Secondary
333	Messengers	Secondary
410	Brickmasons	Crafts
473	Mechanics - Auto	Primary Subordinate
711	Parking Attendants	Secondary
822	Farm Labor - Paid	Secondary
935	Barbers	Primary Subordinate.

Footnotes- Chapter 2 (continued)

2. The average schooling in the two sectors, by race and sex is the following:

	Sector Private	 Public
White Males	11.2	12.9
Black Males	9.1	11.0
White Females	11.2	13.5
Black Females	9.6	12.1

3. The following terms referring to the occupational segments, are used equivalently throughout the remainder of this report.

Primary Independent - high-level, professional, managerial, administrative;
Primary Subordinate - middle level;
Secondary - menial, low-level.

4. Unless otherwise noted, we exclude the "self-employed" from our discussion of the private sector for the remainder of this report.

5. It should be remembered that we have included teachers in the primary independent category -- this explains the large percentage of women in that category in the public sector.

6. If we include the self-employed for males, 27.1 percent of whites and 6.8 percent of blacks are in private sector primary independent jobs.

7. We should note as well that the standard deviation of schooling is approximately the same in the private and public sector for each occupational group, which means that there is probably not much difference in the distribution of education between the two sectors.

8. All data for incomes used in this report are yearly incomes as reported in the 1960 and 1970 census but reflect incomes for 1959 and 1969 respectively.

9. The variables were derived and processed by Barry Bluestone and Mary Stenvenson (while at the Institute of Labor and Industrial Relations), University of Michigan.

10 This was done using: U.S. Bureau of the Census, 1970 Occupation and Industry Classification Systems in Terms of their 1960 Occupation and Industry Elements, by John A. Priebe, Joan Heinkel, and Stanley Green (Technical Paper No. 26), U.S. Government Printing Office, Washington, D.C.

CHAPTER 3

Race and Sex Discrimination in Private and Public Employment

In Chapter 2, we described differences between private and public sector employment patterns, particularly as these apply to whites/blacks and men/women in various job categories. We conclude that employment opportunities for minorities and women are different in the public sector than in the private. The educational characteristics of workers in various job categories are also different in the two sectors, especially in professional/administrative jobs. In this chapter, we consider whether these differences in employment and wage patterns described in Chapter 2 constitute differential discrimination in the private and public sectors, and the role that formal schooling has played or can play in reducing wage differentials between whites and blacks and men and women. In other words, are pay differentials between whites and blacks, men and women lower in the public sector because the kinds of jobs these groups are hired into in the public sector are different in that sector than in the private? Or are wage differences the result of schooling and experience differences of workers in similar jobs in the two sectors? Or are wage differences smaller between groups primarily as a result of different pay policies in the public sector?

The answer to these questions -- again given the shift to public sector employment -- could have important implications for educational policies, since if education is the principal means whereby workers reduce pay differentials, more education for blacks and women will mean eventual equalization of incomes among race and sex groups. The public sector may simply be employing more highly schooled blacks and women in jobs similar to those of whites. On the other hand, if structural conditions -- different pay policies for different groups in the public and private sectors -- are primarily responsible for more equality in the public sector, then increases in the average education of blacks and women should have little effect on income equalization.

There are many ways to define discrimination.[1] Fundamentally, discrimination in the labor market means that because of traits which workers cannot control or change -- such as race or sex -- they have less opportunity for higher-paying jobs or receive lower income for the same jobs as workers with other traits. Since schooling is an important allocator of jobs in most labor markets, sex and race characteristics which influence the amount of schooling individuals receive may contribute to labor market discrimination indirectly. Thus, wage differentials between race and sex groups may reflect discrimination in the amount of schooling workers in the different groups were able to get, the direct differences in the kinds of jobs they were able to get once they left school, and the difference in pay they receive for a particular kind of job.

In this chapter, we use increasingly complex definitions of discrimination to analyze the economic treatment of minorities and women in the private and public sectors:

1. In the simplest definition, we ask whether blacks and whites and men and women generally get hired for different kinds of jobs. This definition comes from discrimination literature which is employment based: for example, does a particular job or industry have a lower or higher ratio of non-whites to whites or women to men than other kinds of jobs and industries (Becker, 1957)?

2. We then ask whether whites and blacks and men and women get different incomes for the same category (or classification) of work. This type of discrimination is wage or income based, holding the type of employment constant. Since these incomes are uncorrected for differences in variables like schooling, experience, training and time worked, which might affect a person's "productivity," this definition includes any discrimination in access to schooling, training, and time worked. In other words, if a person receives less schooling or is permitted to work less time because of discrimination, and receives lower wages in a given kind of work because of wage discrimination, this measure would pick up both effects.

3. But in order to separate the effect of income from schooling and training discrimination, we then measure the differences in income for different groups in the public and private sectors for the same category of work when education, age, training, and other personal characteristic differences are taken into account. We also ask what part of income differences between groups is due to time worked (weeks per year and hours per week) differences.[2]

4. Up to this point, discrimination has been defined in some form of employment or wage differences. Yet, we can define it in terms of differential treatment of personal characteristics. Are additional schooling, experience (age), and training, treated differently for different groups and in the public and private sectors? Is the value of high school education, for example, higher for whites than for blacks? This differential return to "investment" in human capital can also be regarded as discrimination.

5. Differential inter-job mobility can also be viewed as discrimination. Since income differences between job categories are sub-

stantial (see Chapter 2), do different sex/race groups have different mobility rates between job categories when education, age, and other personal characteristics are taken into account?

6. Finally, we ask whether there are income differences between Spanish-surname whites and non-Spanish-surname whites, and whether there are other forms of "discrimination" such as between married and single women.

In all these definitions, we test whether the discrimination is different in the public than in the private sector.

Do Blacks and Whites, Men and Women Get Hired for Different Kinds of Jobs?

The most apparent observable difference in the role played by blacks and whites and men and women in the labor force is the kinds of jobs these different groups hold, on the average. Table 3.1 shows that in the private employment sector among white males in both 1960 and 1970 a much higher percentage held professional and administrative jobs than in any other group, and a smaller percentage held menial jobs. Although among blacks, the percentage holding menial jobs in the private sector dropped considerably between 1960 and 1970, even in 1970 about 40 percent of blacks had menial jobs. At the other end of the spectrum, the percentage of blacks holding professional and administrative jobs rose in the private sector during the decade, but in 1970 only about 5 percent of blacks held these higher positions. As we argued in the last chapter, the important movement for blacks in the private sector during the last decade has been between menial and production level (semi-skilled and skilled) jobs, not particularly to professional and administrative jobs, while for white women in the private sector, there appears to have been little change at all in those ten years, with a much smaller percentage of women holding higher level jobs than white men.

TABLE 3.1

Job Structure, Public and Private Labor Force, by Race and Sex, 1960 and 1970 - (Percent)

	White Males				Black Males			
	Public		Private		Public		Private	
	1960	1970	1960	1970	1960	1970	1960	1970
Secondary	11.3	12.2	17.0	18.1	34.1	32.4	51.3	38.4
Primary Sub.	51.0	42.2	55.9	51.2	47.8	47.2	41.4	49.0
Primary Indep.	32.3	40.7	18.4	21.1	13.3	16.7	2.7	4.6
Crafts	4.6	4.4	8.6	9.2	4.4	3.8	4.5	8.0
% of Total Labor Force	10.5	13.2	72.8	74.2	12.9	19.0	79.2	76.0

	White Females				Black Females			
	Public		Private		Public		Private	
	1960	1970	1960	1970	1960	1970	1960	1970
Secondary	3.8	6.5	23.3	24.2	13.4	13.2	70.0	47.4
Primary Sub.	47.8	47.9	65.6	63.1	47.8	54.4	26.7	46.2
Primary Indep.	47.5	45.2	10.1	11.8	38.1	32.2	2.6	5.6
Crafts	0.8	0.4	0.9	1.0	0.6	0.1	0.7	0.8
% of Total Labor Force	15.9	19.0	78.4	76.5	13.4	23.7	83.7	74.6

a. "Total" refers to private plus public plus self-employed in that year for each race/sex group.

Source: Tables 2.11 - 2.14

The public sector situation is much different, especially for women. All groups have a much higher percentage of their public employees in professional and administrative jobs and a must lower percentage in menial jobs than in the private sector. The smallest difference between the sectors at the lower end of the job spectrum is for black males and the greatest difference is for women, both black and white. At the upper end of the job spectrum, the percentage of white and black women holding professional and administrative jobs in the public sector is much higher than among males, even though that percentage rose for males between 1960 and 1970 and fell for women.

All these figures indicate that blacks do not get the same percentage of higher level jobs as whites in either sector, but do relatively better in the public sector. Women -- both black and white -- do much better in the public sector relative to white males than in the private sector. About 47 percent of all jobs in the public sector were held by women in 1970, but they held more than one-half the professional and administrative jobs in the government, while the corresponding figure for the private sector was less than 25 percent.

Thus in terms of jobs, the public sector employs a much higher percentage of blacks (particularly males) in menial jobs than it does whites -- and in that sense, discriminates against blacks according to our "simple" definition) -- but it also employs a much higher percentage of blacks in higher level jobs than the private sector does. Furthermore, the public sector gives even more access to professional and administrative jobs to women than it does to men, although we must keep in mind that a high percentage of these higher level jobs for women are teaching jobs, not high level administrators. So that within that job category, men probably do much better than women.

We should also note that the employment of blacks in the public sector labor force is growing faster than white employment; this implies that blacks are gaining increased access to higher level jobs in the labor market in part because they are increasingly entering into the sector of the labor market which employs a much higher percentage of blacks in higher level jobs.

Private/Public Income Differences for the Same Category of Work

For those workers who stayed in a particular work category over the five-year period, 1965-1970, what were the differences in earnings between job categories for public and private employment? As we showed in the last chapter (Table 2.2) blacks and women generally earned more in the public sector in each job category than in the private sector, while white males earned, on average, more in the private sector. But in both sectors, white males earned considerably more than either black males or women, both black or white. For women, color did not seem an important factor in salary differentials while it did for men.

Tables 3.2 and 3.3 show that white males earn more than any other group in all job categories, in both the private and public sectors. Men earn more than women in all job categories as well. There are some distinct patterns to these differences however:

1. Within job type, the private sector differentiates salary more by race than the public sector. Indeed, the public sector has almost eliminated racial differences in income among women in the same job category (while white women receive higher incomes than blacks in the private sector), and is characterized by much more earnings equality between black and white males in each job type than in the private sector. For example, those men who remained in menial jobs over the five years,

TABLE 3.2

Means and (Standard Deviation) of Annual Earnings, by Occupational Segment, Race, and Private/Public Sector, Males 1970 (Dollars)

	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
All Black Males*	4,185	(2,806)	6,064	(3,448)	7,864	(6,555)
Private Employees	4,095	(2,735)	6,015	(3,414)	7,867	(5,440)
competitive/ competitive[a]	3,707	(2,687)	5,591	(3,534)	6,921	(5,453)
noncomp./noncomp.[a]	5,777	(2,255)	7,427	(2,738)	9,900	(4,980)
Public Employees	4,999	(2,851)	7,129	(2,734)	11,107	(5,011)
All White Males*	5,690	(4,092)	8,135	(4,887)	10,715	(10,590)
Private Employees	5,872	(4,142)	8,521	(4,438)	14,088	(10,076)
competitive/ competitive[a]	5,297	(3,757)	8,272	(4,744)	13,775	(10,777)
noncomp./noncomp.[a]	7,667	(4,905)	9,337	(3,786)	14,502	(8,485)
Public Employees	5,670	(2,745)	8,282	(3,949)	12,130	(5,584)

Source: Based on statistical analyses of the 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

* Includes self-employed.

a. industry in 1970/industry in 1965 - Note: The Census does not distinguish between private and public sector industry classifications in 1965 but this distinction is made for industrial classification in 1970.

TABLE 3.3

Means and (Standard Deviation) of Annual Earnings, by Occupational Segment, Race, and Private/Public Sector, Females, 1970 (dollars)

	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
All Black Females*	1,983	(1,687)	4,022	(3,557)	6,546	(3,558)
Private Employees	1,918	(1,674)	3,685	(2,019)	4,619	(2,733)
competitive/ competitive[a]	1,742	(1,501)	3,427	(1,883)	4,759	(2,795)
noncomp./noncomp.[a]	4,042	(2,316)[b]	4,951	(2,471)[b]	3,260	(2,177)[b]
Public Employees	2,943	(1,560)	5,327	(5,595)	7,376	(3,452)
All White Females*	3,163	(2,461)	4,253	(2,530)	6,411	(4,758)
Private Employees	3,222	(2,442)	4,346	(2,308)	6,088	(4,649)
competitive/ competitive[a]	2,920	(2,438)	4,142	(2,328)	5,982	(4,654)
noncomp./noncomp.[a]	4,393	(2,098)	5,011	(2,205)	6,659	(4,807)
Public Employees	3,153	(1,972)	4,948	(2,664)	7,952	(4,090)

Source: Based on statistical analyses of the 1970 1/1000 Public Use Samples, U.S. Bureau of the Census

* Includes self-employed.

a. industry in 1970/industry in 1965 - Note: the Census does not distinguish between private and public sector industry classifications in 1965 but this distinction is made for industrial classification in 1970.

b. the non-competitive sector has few black females; therefore, our sample sizes are small, particularly in secondary jobs (36) and primary independent jobs (5). The mean income in the latter category is not very meaningful.

showed a ratio of white/black mean earnings in the private sector of 1.43, while this ratio in the public sector was only 1.13; similarly, the ratios were 1.42 and 1.16 in primary subordinate jobs, and 1.79 and 1.09 in professional/administrative jobs.

2. These figures indicate that black/white male differences in earnings increase in the highest level jobs in the private sector, but decline in the public sector, where mean salary is much more equal.

3. The tables also show that in addition to greater equality in the public sector of black/white earnings, both among men and women, the public sector is characterized by more equal earnings between men and women than the private sector. However, there is much more inequality in men/women earnings in both private and public employment than in black/white earnings, and in several job categories, the difference in male/female equality between the public and private sectors is nominal. Thus at least in terms of these figures, the public sector has not gone nearly as far toward equalizing male/female earnings as it has in black/white earnings.

4. Within the private employment sector, noncompetitive industries are characterized by greater earnings equality between blacks and whites and men and women than competitive industries.[3] This is true across job categories, but is more evident for black/white differences than for male/female differences. In any case, the public sector is characterized by more earnings equality among all groups then noncompetitive private industries. (The noncompetitive private employment sector, however, pays higher average salaries to all groups than the public sector in every job category except the professional/administrative, where only white males receive higher earnings in the private sector.)

To summarize, the public sector pays more equal wages to blacks and women than the private employment sector. In these terms, according to our second definition of discrimination, the government discriminates less than the private sector, and between blacks and whites, seems to discriminate very little. Yet, women have not attained the same degree of income equality with men as blacks have with whites in either the public or private sector. Within the private sector, it is in the highly concentrated industries that wages are more equal among these groups, and (again, in these terms) the competitive industries which are the most discriminatory. But only about 20 percent of all women and blacks employed in the private sector are employed in noncompetitive industries.

It is generally accepted that the public sector more rigidly enforces anti-discrimination laws in its own employment than in the private sector. Is this merely a "lag," in which private sector discrimination is gradually being eliminated, or is it rather a difference between the sectors which will likely continue to persist? In other words, is the public sector playing a "vanguard" role in showing private sector that blacks and women should not be discriminated against, or is the public sector taking the pressure off the private sector by being an increasingly large employer of those very groups who are discriminated against in the private sector?

In Chapter 2, we indicated that between 1960 and 1970 the public sector increased its absolute employment of blacks and women in professional and administrative jobs more rapidly than the private sector, even though the private sector had many more of those jobs available than the public. So the public sector continued to increase the absolute number of minority and women employed in higher-paying jobs more rapidly than the private sector, even though the difference in rates of increase may have been smaller in 1960/70 than in the previous decades. On the other hand, at least in the case of white and black males, the private sector decreased pay differentials between 1960 and 1970 more rapidly than did the public sector (see Table 3.4). This is particularly evident when we consider the 25-34 year-old age group. So in that case it appears that in the past decade, the private sector has begun to follow the lead of the public sector in paying black workers in all occupational categories more relative to white males, although private differentials are still considerably higher, especially in the professional/administrative category. For white women, the trend is much less clear (Table 3.4). Except in the highest occupational category, women in the private sector appear to be doing worse relative to white men than in 1960. In the public sector, professional women have lost ground as well. So, while for the most part, the public sector continues to pay women more relative to men than the private sector, and there has been some narrowing of differences between private and public sector pay differentials over the decade, the rate and direction of changes of the private sector in relation to the public is not clear.

Income Differentials Accounting for Education and Age Differences

The government appears to discriminate less against blacks and women than the private sector. But is this so because there are smaller differences in education, age, and other earnings-affecting individual characteristics between groups in the public than in the private sector? In other words, assuming that the job and income discrimination we have discussed above are not really "discrimination" because the people from different races and sexes in the various job categories are not comparable because of differences in training and experience, does discrimina-

TABLE 3.4

Relative Salary Differentials, White and Black Males and White Males and Females, 1960 and 1970.

	Salary Ratio, White Males/Black Males, 25-34 Years Old			
	Private		Public	
Job Type	1960	1970	1960	1970
Secondary	1.470	1.306	1.179	1.285
Primary Sub.	1.740	1.364	1.250	1.203
Primary Indep.	1.777	1.345	1.191	1.154

	White Males/Black Males, All Ages			
	Private		Public	
Job Type	1960	1970	1960	1970
Secondary	1.297	1.198	1.060	1.121
Primary Sub.	1.658	1.448	1.293	1.223
Primary Indep.	2.124	1.754	1.442	1.195

	White Males/White Females, All Ages			
	Private		Public	
Job Type	1960	1970	1960	1970
Secondary	1.807	1.849	2.268	2.189
Primary Sub.	2.072	2.157	1.831	1.935
Primary Indep.	2.698	2.398	1.543	1.636

Source: Chapter 2, Tables 2.27, 2.28, 2.29, 2.31, 2.32.

tion exist when we take account of these differences, and is it less in the public sector? To test this hypothesis, we first estimate the relationship bewteen earnings and personal characteristics for each race/sex/occupation group, including sector worked in as an independent variable.

We use dummy (dichotomous) variables for each level of education and age as well as for the other sets of variables (see Chart 3.1). Thus coefficients shown for each variable in Tables 3.5 and 3.6 represent the difference between the left-out dummy variable and the dummy variable shown. For example, the left-out dummy in the education set is completed high school (12 years of schooling): earnings in the secondary labor market are negatively and significantly correlated with having completed primary school or less. White males with this lower level of schooling earn about $1,500 less than those who completed high school. For blacks, the earnings of this group is about $800 less than for those who completed high school.

Table 3.5 shows that, accounting for education, age, civil status, and time worked in the week (hours worked) and during the year (weeks worked), the public sector pays lower income to white males than does the private competitive sector (the coefficient for public sector represents the difference in income, other variables constant, between the public sector and the private competitive part of the private sector) and the noncompetitive part of the private sector, which pays white males the highest earnings of all the sectors considered (the coefficient of the private noncompetitive variable is positive and signficant for those who worked in menial and primary subordinate jobs, and is positive but not significant for professional/administrative workers). On the other hand, the public sector pays black males more than the private competitive sector in every job category (Table 3.6), but less than the private non-

CHART 3.1

List of Variables Used in Regression

Variable	Explanation
College 5 Years Ago	Dummy - value = 1 if respondent was attending college 5 years ago
Currently Attending School	Dummy - value = 1 if respondent was currently attending school
≤8 years of school	Dummy - value = 1 if number of years completed by respondent was 8 years or less
9-11 years of school	Dummy - value = 1 if number of years of school completed by respondent was between 9 and 11
13-15 years of school	Dummy - value = 1 if number of years of school completed by respondent was between 13 and 15
16 years of school	Dummy - value = 1 if number of years of school completed by respondent was 16
17 years of school	Dummy - value = 1 if number of years of school completed by respondent was 17
18+ years of school	Dummy - value = 1 if number of years of school completed by respondent was greater than 18
Married	Dummy - value = 1 if respondent is currently married
Was married	Dummy - value = 1 if respondent was formerly married
15-19 years of age	Dummy - value = 1 if respondent is between 15 and 19 years of age
20-24 years of age	Dummy - value = 1 if respondent is bewteen 20 and 24 years of age
25-34 years of age	Dummy - value = 1 if respondent is between 25 and 34 years of age
35-44 years of age	Dummy - value = 1 if respondent is between 35 and 44 years of age
45-54 years of age	Dummy - value = 1 if respondent is between 45 and 54 years of age

CHART 3.1 (continued)

Variable	Explanation
55-64 years of age	Dummy - value = 1 if respondent is between 55 and 64 years of age
65+ years of age	Dummy - value = 1 if respondent is more than 65 years of age or greater
Weeks Worked	The number of weeks worked by the respondent the year preceding the survey
Hours Worked	The number of hours worked by the respondent during the reference week (a "typical" week of the preceding year)
Spanish Surname	Dummy - value = 1 if respondent has a Spanish surname (ascertained only for whites living in five southwestern states)
Public Sector	Dummy - value = 1 if respondent currently is employed in public sector
Self-Employed	Dummy - value = 1 if respondent currently is self-employed
Vocational Training	Dummy - value = 1 if respondent has not taken vocational training previously
Private Noncompetitive	Dummy - value = 1 if respondent is currently employed in the private noncompetitive sector
Husband present, children	Dummy - value = 1 if respondent has a husband present in the household and children of head under age 18 present
Husband present, no children	Dummy - value = 1 respondent has a husband present in the household but no children of head under age 18 present
H.H., not single, children	Dummy - value = 1 if respondent is head of household, has previously been married, and has own children present under the age of 18
H.H., single, children	Dummy - value = 1 if respondent is head of household, has never been married, and has own children present under the age of 18
H.H., not single, no children	Dummy - value = 1 if respondent is head of household, has previously been married, with no children of head under age 18 present

CHART 3.1 (continued)

Variable	Explanation
H.H., single, no children	Dummy - value = 1 if respondent is head of household, has never been married, with no children of head under age 18 present
Male H.H., not single	Dummy - value = 1 if respondent has previously been married and resides in a household where the head is a male but not the husband of the respondent
Male H.H., single	Dummy - value = 1 if respondent has never been married and resides in a household where there is a female head but not the husband of the respondent
Not single, prim. or sec. individual	Dummy - value = 1 if respondent has been previously married and is living alone or with only nonrelated persons.

TABLE 3.5

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Males (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	-12.81***	- 6.74	-11.95***	- 9.12***	-13.67**	-11.49*
≤8 years of school	-15.65***	-14.35***	-16.54***	-14.92***	-31.93***	-30.56***
9-11 years of school	- 4.45**	- 4.18**	- 8.48***	- 7.56***	-18.09***	-17.26***
13-15 years of school	1.16	2.59	20.13***	19.49***	12.78**	12.20**
16 years of school	8.50	7.45	12.14***	12.44***	15.52**	15.68**
17 years of school	-18.06	-15.11	15.95**	18.82***	17.43**	19.93***
18+ years of school	-	-	25.93***	25.77***	15.56**	17.46***
Married	17.91***	15.12***	20.48***	17.70***	34.29***	33.02***
Was Married	7.62**	6.86**	6.46***	6.34***	24.72***	26.36***
15-19 years of age	-28.88***	-21.58***	-41.22***	-32.45***	13.44	9.74
20-24 years of age	-15.98***	-14.51***	-28.32***	-24.70***	-44.35***	-42.83***
25-34 years of age	- 3.05	- 3.07	- 8.82***	- 8.58***	-21.36***	-20.87***
45-54 years of age	0.77	0.49	- .29	.01	11.84***	11.99***
55-64 years of age	- 5.45**	- 4.57**	- 5.76***	- 4.32***	11.48***	11.85***
65+ years of age	-26.69***	-21.62***	-28.09***	-19.60***	-14.00***	- 7.45
Weeks worked	-	.85***	-	1.23***	-	1.63***
Hours worked	-	.10*	-	.14***	-	- .17**
Spanish surname	-13.61***	-11.05***	-12,05***	-11.61***	-20.60*	-16.91
Public sector	- 1.17	- 2.21	- 3.95***	- 5.30***	-26.23***	-25.49***
Self-employed	-36.63***	-36.35***	-48.58***	-48.91***	-87.13***	-86.57***
Vocational training	- 3.94**	- 3.98**	- 4.53***	- 4.43***	.04	- .07
Private non-competitive	11.28***	10.97***	5.31***	4.63***	4.20	2.39
R^2 *	.222	.271	.172	.205	.216	.225
N of Sample	2,659		12,807		8,444	
Mean Annual Earnings ($)	5,690		8,134		10,715	
Mean Hours Worked	37.4		40.9		44.0	
Mean Weeks Worked	47.0		49.6		50.1	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

Note: * The R^2 figure that appears here and all subsequent regression tables has been adjusted to compensate for samll sample sizes. See Theil (1971), p. 178 for an explanation.

TABLE 3.6

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, Black Males (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 8.17	- .72	- 4.23	- 3.41	-20.79	-22.34
≤8 years of school	- 7.75***	- 8.37***	-14.67***	-14.03***	-27.53*	-23.94
9-11 years of school	- 3.47	- 2.06	- 7.01***	- 7.46***	-32.35*	-25.77
13-15 years of school	- 4.61	- 2.88	6.85	4.54	-13.63	-11.70
16 years of school	-	-	7.03	7.76	35.27	-32.17
17 years of school	-	-	7.47	10.61	37.90	39.54
18+ years of school	-	-	-10.05	-10.86	39.71*	39.45*
Married	12.38***	8.12***	9.44***	5.78	14.20	16.79
Was Married	4.53	1.95	9.65**	7.55*	7.44	10.14
15-19 years of age	-15.58**	-14.10**	-29.90***	-24.68**	-	-
20-24 years of age	-10.83**	-10.44**	-20.38***	-15.94***	-	-
25-34 years of age	- .49	- .89	- 5.21**	- 5.48**	- 5.24	- 2.82
45-54 years of age	- .55	- .36	- .14	- .06	- 8.37	-11.71
55-64 years of age	- 4.78	- 2.89	2.05	2.06	1.55	1.70
65+ years of age	-20.26***	-12.49***	-16.89***	-11.90*	-29.11	-26.25
Weeks worked	-	.66***	-	.76***	-	.90
Hours worked	-	.16**	-	.19**	-	.29
Public sector	9.43***	8.04***	8.71***	7.31***	23.88**	26.12**
Self-employed	-38.44***	-38.47***	-42.21***	-41.03***	-35.34***	-37.63***
Vocational training	- 7.26**	- 4.98*	-10.63***	-11.00***	-11.05	-11.88
Private non-competitive	14.79***	12.11***	12.82***	12.51***	22.52	22.75
R^2	.207	.295	.200	.235	.307	.312
N of Sample	738		1,095		191	
Mean annual earnings	4,185		6,064		7,864	
Mean hours worked	36.0		38.3		39.1	
Mean weeks worked	45.6		49.0		48.6	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

competitive sector in all but the professional/administrative job category. Similarly, in all but menial jobs, other variables accounted for, the public sector pays more to white women than they receive in the private competitive job market, and in all but these low level jobs, more than the private noncompetitive sector, especially when time worked is taken into account. Like white women, black women also do better in the public sector than either part of the private sector in primary subordinate and primary independent jobs, but unlike their white counterparts they earn more in the public sector than in private competitive menial (secondary) jobs as well (Tables 3.7 and 3.8).

These regression estimates show that even when education, age, and civil status differences between the private and public sectors are accounted for, the public sector generally pays white males less and women and black males more than the private competitive sector (which represents the bulk of employment in the private sector). Although the noncompetitive part of the private sector pays black males more than the public sector in the lower and middle level jobs, both white and black women do better in the public sector than even this higher paying portion of the private sector labor market. Thus the mechanism of reducing inequality in the public sector between sexes and races is apparently to pay lower salaries to the "dominant" white male group in the labor market and higher salaries to blacks and women than they receive in private employment (we test this further below).

But this still does not tell us whether blacks and women earn less than white males because they are discriminated against or because they have different personal characteristics (valued in the labor market) than white males. The nature of this difference can be tested by further decomposing the samples into sex/race/sector of employment groups and

TABLE 3.7

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Women (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	-12.74**	- 4.58	- 4.81**	- 1.90	- 0.94	- 0.35
≤8 years of school	- 3.45**	- 4.17***	- 7.72***	- 5.96***	- 3.86	- 5.34
9-11 years of school	- 0.13	- 0.86	- 5.82***	- 4.39***	- 1.72	- 2.63
13-15 years of school	9.81	10.70	- 0.60	1.75	3.10	4.33
16 years of school	-23.80*	-23.36*	4.96*	3.71	9.82***	13.22***
17 years of school	-33.17	-36.65	8.41*	11.90***	16.62***	21.55***
18+ years of school	-	-	11.97**	8.56	26.55***	26.64***
Husband present, children	- 1.49	4.28	-17.21***	-13.09***	- 6.39**	- 0.51
Husband present, no children	1.58	6.13**	-10.47***	- 9.31***	0.97	3.39
.H.,not single, children	1.78	6.44*	- 4.48***	- 3.56**	14.59***	16.54***
H.H.,single, children	3.59	6.01	- 9.49**	-11.53***	14.34	10.97
H.H.,not single,no children	3.58	5.98*	- 5.84***	- 4.88***	11.31**	11.87***
.H.,single, no children	1.40	4.96	2.82	1.11	14.43***	14.92***
Male H.H., not single	- 7.66	0.88	-11.02***	- 8.12***	- 3.09	- 5.67
Male H.H., single	- 0.72	0.68	-11.54***	-11.79***	9.60	14.14
ot single, prim.or sec. individual	5.72*	8.55***	- 6.95***	- 6.04***	5.13	4.84
15-19 years of age	- 9.21	- 4.13	-19.83***	-10.31***	-33.02	- 6.07
20-24 years of age	-10.26***	- 4.56*	- 8.13***	- 4.70***	-13.72*	- 9.23
5-35 years of age	- 2.70	- 1.57	- 2.30***	0.14	- 6.64**	- 3.64
45-54 years of age	1.80	1.19	- 0.50	- 0.19	3.48	4.06*
55-64 years of age	- 1.14	- 0.60	- 3.93***	- 2.95***	2.46	4.26
65+ years of age	-16.26***	-11.74***	-14.42***	- 8.05***	-17.50***	-12.47***
ublic sector	3.27	3.11	7.19***	6.54***	12.36***	13.76***
Self-employed	-13.32***	-15.60***	-28.24***	-27.39***	-41.90***	-42.97***
rivate non-competitive	12.43***	10.89***	6.40***	4.92***	11.01***	8.09**
panish surname	- 5.23	- 1.74	- 4.29*	- 3.49*	- 0.84	0.01
Vocational training	0.44	0.52	- 2.96***	- 2.86***	- 4.13**	- 3.47*
Weeks worked	-	0.63***	-	0.86***	-	1.11***
ours worked	-	0.17***	-	0.23***	-	0.20***
R^2	.099	.234	.172	.357	.232	.300
of sample	1,785		7,479		2,597	
Mean Annual Earnings ($)	3,163		4,253		6,411	
Mean hours worked	32.0		34.4		35.1	
Mean weeks worked	44.0		46.3		44.5	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

ource: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.8

Estimated Regression, Coefficient, Dependent Variable Annual Earnings, by Occupational Segment, Black Women (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 9.72	- 4.26	- 0.84	- 0.73	11.68	13.67
<8 years of school	- 5.41***	- 4.86***	- 9.97***	- 9.49**	-23.43*	-25.06**
9-11 years of school	- 2.69	- 2.59	- 3.46	- 3.55	- 8.58	- 6.02
13-15 years of school	- 6.00	- 1.95	12.12	9.44	22.26	22.06
16 years of school	-	-	-10.38	- 6.09	- 8.94	0.13
17 years of school	-	-	13.28	15.04	- 4.74	3.98
18+ years of school	-	-	-	-	5.44	15.18
Husband present, children	- 5.23	- 3.66	- 3.65	- 1.13	- 1.80	- 0.80
Husband present, no children	- 6.27	- 4.90	- 5.07	- 3.55	3.59	2.55
H.H., not single, children	- 1.06	- 1.50	- 1.11	0.61	30.47**	24.94**
H.H., single, children	-11.38**	- 7.05	- 4.78	- 2.98	-	-
H.H., not single, no children	- 5.15	- 5.62	- 3.13	- 1.76	14.34	14.49
H.H., single, no children	- 4.96	- 5.21	1.92	1.41	- 6.47	- 6.40
Male H.H., not sincle	- 4.96	- 2.64	-15.92	- 9.83	-64.22*	-24.64
Male H.H., single	-19.96	- 9.54	- 9.87	- 5.92	-	-
Not single, prim. or sec individual	- 1.87	- 1.74	- 6.50	- 4.99	0.86	2.14
15-19 years of age	5.28	5.34	-28.96**	-19.80	-	-
20-24 years of age	- 5.44	- 5.61	- 6.90	- 4.81	-	-
25-34 years of age	- 2.51	- 1.92	0.46	1.02	- 2.04	0.25
45-54 years of age	- 0.47	- 0.81	3.16	2.98	4.14	4.06
55-64 years of age	- 3.00	- 2.81	10.72**	11.49**	2.11	2.14
65+ years of age	-10.37***	- 7.66***	- 8.11	- 4.44	-25.50	-21.20
Public sector	11.88***	9.12***	17.19***	17.17***	14.79**	16.71***
Self-employed	-17.24	-20.85**	-32.98***	-28.18***	- 5.20	- 4.28
Private non-competitive	20.11***	18.33***	11.15***	10.15***	-14.19	-19.22
Vocational training	- 5.99***	- 4.94**	0.93	0.15	-11.23**	-11.93**
Weeks worked	-	0.31***	-	0.32***	-	1.19***
Hours worked	-	0.19***	-	0.20***	-	0.06
R^2	.191	.328	.101	.120	.231	.316
N of sample	632		723		196	
Mean annual earnings ($)	1,980		4,016		6,546	
Mean hours worked	29.7		34.3		35.0	
Mean weeks worked	41.8		45.6		44.5	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

estimating the same regressions as in Tables 3.5 to 3.8. We present the results of such regressions in Tables 3.9 to 3.16.

Each of those tables shows the relationship between earnings as a dependent variable and education, age, marital status, vocational training, and time worked for a particular sex/race group in the public and private employment sector. With this estimated relationship, we can predict (with an estimation error) what the earnings of a worker of a given race and sex would be in the private and public sector if she or he had a particular set of educational, age, training, and civil status characteristics and worked a certain number of hours per week. We can therefore estimate, for example, what black males would earn, on the average, in the private sector/primary independent labor market if they had the average characteristics of the white male private sector labor force. This enables us to say something about the degree of "discrimination" in the labor market between blacks and whites, men and women, when personal characteristics like education, age, and marital status are equalized, and the time worked of the two groups is also equalized.

Tables 3.17 and 3.18 show that even when earnings are adjusted for differences in personal characteristics and time worked, a high percentage of earnings differences between white and black males and white males and females remains in all three types of occupations covered by our analysis, particularly in the private sector.[4]

We estimated the "adjusted" mean earnings in Table 3.17 in the following way:

1. The mean value of each variable for white males working in the private sector was multiplied by the coefficient of that variable in the white male private sector equation in each occupational type(see Appendix B, Table B-1).

TABLE 3.9

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Males, Private Sector (x 10^2 Dollars), 1970

Variable	Secondary/ Secondary A	Secondary/ Secondary B	Primary Subordinate/ Primary Subordinate A	Primary Subordinate/ Primary Subordinate B	Primary Independent/ Primary Independent A	Primary Independent/ Primary Independent B
Currently Attending School	-12.51***	- 6.55	-12.81***	- 9.83***	-15.46	-11.66
≤ 8 Years of School	-17.53***	-16.22***	-17.26***	-15.49***	-38.32***	-38.14***
9-11 Years of School	- 5.82***	- 5.81***	- 8.59***	- 7.43***	-20.37***	-19.46***
13-15 Years of School	6.18	6.89	27.07***	26.65***	2.10	- 0.32
16 Years of School	5.04	4.97	7.01*	6.41*	30.21***	31.77***
17 Years of School	-23.59	-20.38	-	-	37.81***	41.71***
18+ Years of School	-	-	-	-	32.17***	36.50***
Married	19.36***	16.86***	21.75***	18.75***	44.29***	42.74***
Was Married	8.16**	7.59**	8.33***	8.05***	32.79***	37.24***
15-19 Years of Age	-30.09***	-23.53***	-41.11***	-31.89***	-	-
20-24 Years of Age	-17.67***	-16.08***	-28.71***	-25.42***	-53.01***	-48.34***
25-34 Years of Age	- 3.30	- 3.37	-10.69***	-10.53***	-23.62***	-23.64***
45-54 Years of Age	0.13	- 0.32	- 0.90	- 0.52	17.93***	18.88***
55-64 Years of Age	- 6.33**	- 5.86**	- 5.24***	- 3.63***	20.93***	21.89***
65+ Years of Age	- 28.37***	-23.97***	-30.51***	-20.60***	-21.51***	- 7.10
Spanish Surname	-13.48***	-10.63***	-13.38***	-13.34***	-31.66**	-27.44*
Vocational Training	- 1.62	- 1.89	- 4.23***	- 4.27***	0.43	0.03
Non-Competitive Industry	10.98***	10.60***	5.17***	4.48***	3.83	1.40
Weeks Worked	-	0.86***	-	1.29***	-	2.51***
Hours Worked	-	0.07	-	0.14***	-	- 0.07
Constant	58.65	16.24	78.13	9.75	84.35	-38.66
R^2	.208	.256	.137	.181	.082	.101
N	2,215		10,269		4,316	
Mean Earnings ($)	5,872		8,521		14,088	
Mean Weeks Worked	46.9		49.6		50.5	
Mean Hours Worked	37.1		40.5		42.9	

* Significant at 10% significance level
** Significant at 5% significance level
*** Significant at 1% significance level

A = Regression excluding weeks and hours worked. B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census.

TABLE 3.9

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Males, Private Sector (x 10^2 Dollars), 1970

Variable	Secondary/ Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	-12.51***	- 6.55	-12.81***	- 9.83***	-15.46	-11.66
≤ 8 Years of School	-17.53***	-16.22***	-17.26***	-15.49***	-38.32***	-38.14***
9-11 Years of School	- 5.82***	- 5.81***	- 8.59***	- 7.43***	-20.37***	-19.46***
13-15 Years of School	6.18	6.89	27.07***	26.65***	2.10	- 0.32
16 Years of School	5.04	4.97	7.01*	6.41*	30.21***	31.77***
17 Years of School	-23.59	-20.38	-	-	37.81***	41.71***
18+ Years of School	-	-	-	-	32.17***	36.50***
Married	19.36***	16.86***	21.75***	18.75***	44.29***	42.74***
Was Married	8.16**	7.59**	8.33***	8.05***	32.79***	37.24***
15-19 Years of Age	-30.09***	-23.53***	-41.11***	-31.89***	-	-
20-24 Years of Age	-17.67***	-16.08***	-28.71***	-25.42***	-53.01***	-48.34***
25-34 Years of Age	- 3.30	- 3.37	-10.69***	-10.53***	-23.62***	-23.64***
45-54 Years of Age	0.13	- 0.32	- 0.90	- 0.52	17.93***	18.88***
55-64 Years of Age	- 6.33**	- 5.86**	- 5.24***	- 3.63***	20.93***	21.89***
65+ Years of Age	- 28.37***	-23.97***	-30.51***	-20.60***	-21.51***	- 7.10
Spanish Surname	-13.48***	-10.63***	-13.38***	-13.34***	-31.66**	-27.44*
Vocational Training	- 1.62	- 1.89	- 4.23***	- 4.27***	0.43	0.03
Non-Competitive Industry	10.98***	10.60***	5.17***	4.48***	3.83	1.40
Weeks Worked	-	0.86***	-	1.29***	-	2.51***
Hours Worked	-	0.07	-	0.14***	-	- 0.07
Constant	58.65	16.24	78.13	9.75	84.35	-38.66
R^2	.208	.256	.137	.181	.082	.101
N	2,215		10,269		4,316	
Mean Earnings ($)	5,872		8,521		14,088	
Mean Weeks Worked	46.9		49.6		50.5	
Mean Hours Worked	37.1		40.5		42.9	

* Significant at 10% significance level
** Significant at 5% significance level
*** Significant at 1% significance level

A = Regression excluding weeks and hours worked. B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census.

TABLE 3.10

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Males, Public Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	-31.42***	-15.87**	-12.52**	-10.49*	- 2.76	1.40
≤ 8 Years of School	-12.30***	-10.45***	-16.77***	-16.37***	-	-
9-11 Years of School	- 7.67**	- 5.37	- 8.43***	- 7.96***	- 9.99	-11.62
13-15 Years of School	- 7.10	- 0.19	24.90***	25.65***	23.74**	25.33***
16 Years of School	25.44	17.23	-13.91	-12.54	4.07	3.46
17 Years of School	-	-	5.22	10.10	2.58	5.77
18+ Years of School	-	-	56.06***	55.71***	18.03*	20.11**
Married	11.76**	7.06	11.73***	10.19**	16.45***	10.57**
Was Married	8.51	4.63	- 0.78	- 0.06	6.83	.99
15-19 Years of Age	-	-	- 8.87	- 8.73	-	-
20-24 Years of Age	- 7.37	-13.11*	-33.22***	-26.82***	-45.75**	-50.44**
25-34 Years of Age	- 2.11	- 4.88	- 5.46*	- 5.06*	-20.05***	-17.61***
45-54 Years of Age	0.75	- 0.24	- 0.14	0.46	12.06***	11.48***
55-64 Years of Age	- 4.10	- 3.75	- 4.99*	- 3.21	14.15***	15.23***
65+ Years of Age	-30.11***	-22.78***	-16.49***	-10.69**	-23.85***	-12.21
Spanish Surname	-13.00**	-13.24**	- 0.52	- 1.00	- 0.06	- 2.29
Vocational Training	- 6.13*	- 4.74	- 5.63***	- 5.85***	- 2.82	- 2.82
Weeks Worked	-	0.91***	-	1.19***	-	1.96***
Hours Worked	-	0.33***	-	0.24***	-	0.16
Constant	64.02	8.37	82.78	12.97	84.17	-17.00
R^2	.236	.395	.108	.144	.134	.188
N	329		1,598		1,490	
Mean Earnings ($)	5,670		8,282		12,130	
Mean Weeks Worked	48.4		50.6		49.2	
Mean Hours Worked	38.1		40.5		40.6	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked. B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample., U.S. Bureau of the Census

TABLE 3.11

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, Black Males, Private Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 7.67	- 0.34	- 5.49	- 4.07	52.21	56.38
≤ 8 Years of School	- 7.15**	- 7.69**	-12.60***	-11.51***	-30.14	-28.01
9-11 Years of School	- 2.61	- 1.28	- 4.34	- 4.80*	-37.97	-37.07
13-15 Years of School	- 0.54	- 1.54	16.27	11.81	-19.25	-13.91
16 Years of School	-	-	11.10	14.38	53.37	47.13
17 Years of School	-	-	-	-	-24.21	-30.22
18+ Years of School	-	-	-	-	17.96	18.80
Married	12.69***	7.90**	8.79**	4.19	23.94	23.37
Was Married	3.17	0.56	8.47	6.18	36.08	39.30
15-19 Years of Age	-16.74**	-15.51**	-28.94*	-20.38	-	-
20-24 Years of Age	- 9.93**	- 9.90**	-22.24***	-16.80***	-	-
25-34 Years of Age	1.14	0.71	- 3.69	- 3.58	- 0.82	- 0.47
45-54 Years of Age	- 1.61	- 1.02	- 0.06	0.19	- 0.96	- 1.97
55-64 Years of Age	- 4.41	- 1.65	5.77	5.01	- 6.79	- 5.34
65+ Years of Age	-20.03***	-12.02***	-13.69*	- 7.41	-18.37	-27.07
Vocational Training	- 4.91	- 2.40	-10.33***	-11.23***	- 7.65	-10.51
Non-Competitive Industry	14.79***	12.17***	13.05***	12.72***	20.42	20.73
Weeks Worked	-	0.64***	-	0.86***	-	- 0.70
Hours Worked	-	0.16***	-	0.14	-	0.37
Constant	41.16	7.12	64.30	21.39	60.54	82.45
R^2	.173	.258	.112	.155	.098	.077
N	589		818		69	
Mean Earnings ($)	4,095		6,015		7,867	
Mean Weeks Worked	45.4		48.7		49.1	
Mean Hours Worked	35.6		38.1		37.7	

* Significant at 10% significance level.
** Significant at 5% significance level.
*** Significant at 1% significance level.

A = Regression excluding weeks and hours worked. B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, Bureau of the Census

TABLE 3.12

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, Black Males, Public Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 8.40	- 2.10	- 5.99	- 2.31	-29.71	-27.44
≤ 8 Years of School	-13.61**	-15.91**	-18.88***	-23.56***	-	-
9-11 Years of School	-10.56	- 9.74	-16.08***	-16.77***	-49.12	-52.66
13-15 Years of School	-18.85	-10.07	- 7.35	- 7.29	- 9.58	- 8.19
16 Years of School	-	-	0.72	- 3.35	7.28	12.41
17 Years of School	-	-	19.12	21.12	47.12	53.27*
18+ Years of School	-	-	- 4.87	- 9.91	50.27*	55.51**
Married	12.46	9.74	12.62*	9.91	2.04	1.59
Was Married	9.80	2.29	14.14*	9.17	-10.25	- 2.06
15-19 Years of Age	-	-	-	-	-	-
20-24 Years of Age	-15.57	-12.51	-13.49	-16.06*	-	-
25-34 Years of Age	- 8.72	- 9.82	- 7.09	-10.62**	- 3.22	- 2.73
45-54 Years of Age	2.03	- 0.01	5.49	4.58	- 1.51	- 6.79
55-64 Years of Age	- 5.07	- 9.30	- 3.47	1.59	11.28	16.48
65+ Years of Age	-24.83**	-13.45	-31.55***	-23.35**	-28.31	-10.14
Vocational Training	-16.57**	-15.00**	-10.50***	- 8.98**	-25.45*	-24.16
Weeks Worked	-	0.82***	-	1.06***	-	2.08**
Hours Worked	-	0.35*	-	0.60***	-	0.25
Constant	66.82	18.43	75.77	1.63	114.53	- 0.88
R^2	.135	.302	.192	.274	.096	.132
N	135		231		75	
Mean Earnings ($)	4,999		7,129		11,107	
Mean Weeks Worked	46.6		50.4		48.0	
Mean Hours Worked	37.8		39.1		37.1	

* Significant at 10% significance level.
** Significant at 5% significance level.
*** Significant at 1% significance level.

A = Regression excluding weeks and hours worked. B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.13

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Females, Private Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	-11.21*	- 2.06	- 4.57*	- 2.07	- 5.96	- 3.65
≤8 years of school	- 3.89***	- 4.43***	- 7.59***	- 5.87***	5.27	5.13
9-11 years of school	- 0.25	- 0.82	- 5.44***	- 4.18***	- 3.46	- 4.89
13-15 years of school	9.25	10.31	0.31	2.25	1.89	2.30
16 years of school	-12.95	- 8.39	8.38***	6.26**	17.98***	19.88***
17 years of school	-33.03	-36.34	-	-	8.43	14.94**
18+ years of school	-	-	-	-	23.64***	23.67***
Husband present, children	- 1.50	4.40	-16.95***	-12.22***	- 1.85	7.71*
Husband present, no children	1.90	6.65**	-10.16***	- 8.75***	9.34**	12.65***
H.H.,not single, children	1.39	6.55*	- 3.81**	- 2.06	24.74***	28.01***
H.H., single, children	3.84	6.17	- 9.22**	-11.21***	34.60	29.92
H.H.,not single, no children	3.64	5.68	- 6.73***	- 5.89***	20.78***	21.00***
H.H., single, no children	2.11	6.06	1.81	0.21	17.10**	18.52**
Male H.H., not single	- 8.43	1.24	-12.81***	- 9.27***	-10.16	-16.02
Male H.H., single	0.57	2.00	- 9.28***	-10.64***	29.20	26.16
Not single, prim. or sec. individual	6.01*	8.70***	- 7.24***	- 6.01***	15.83***	15.62***
15-19 years of age	-12.41*	- 7.55	-21.57***	-10.24***	-	-
20-24 years of age	-11.65***	- 5.42**	- 8.90***	- 5.28***	- 3.84	0.10
25-34 years of age	- 3.44*	- 2.09	- 3.51***	- 0.60	- 2.82	1.44
45-54 years of age	1.60	1.19	- 1.38	- 0.87	4.25	4.58
55-64 years of age	- 1.64	- 0.17	- 4.66***	- 3.36***	1.21	3.11
65+ years of age	-17.90***	-12.99***	-17.00***	- 9.26***	-21.63***	-12.89**
Spanish surname	- 4.92	- 0.86	- 7.06***	- 5.46**	- 2.70	- 6.44
Vocational training	0.62	0.66	- 2.66***	- 2.85***	- 3.06	- 3.26
Non-competitive industry	12.03***	10.48***	5.55***	3.96***	8.74**	4.94
Weeks worked	-	0.63***	-	0.87***	-	1.17***
Hours worked	-	0.18***	-	0.27***	-	0.42***
Constant	31.40	- 7.32	59.75	6.32	49.51	-25.13
R^2	.099	.240	.117	.358	.061	.168
N	1,637		5,874		1,123	
Mean earnings ($)	3,222		4,346		6,088	
Mean weeks worked	44.0		46.2		45.9	
Mean hours worked	32.0		34.2		34.9	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.14

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, White Females, Public Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary A	Secondary/Secondary B	Primary Subordinate/Primary Subordinate A	Primary Subordinate/Primary Subordinate B	Primary Independent/Primary Independent A	Primary Independent/Primary Independent B
Currently Attending School	-	-	- 4.13	0.57	1.97	2.41
≤8 years of school	1.51	- 2.55	-13.94***	- 8.78***	-	-
9-11 years of school	3.97	- 2.35	-10.06***	- 7.20***	- 7.18	- 4.72
13-15 years of school	-	-	- 2.78	3.57	3.40	4.54
16 years of school	-	-	6.10	4.66	6.57	11.58**
17 years of school	-	-	11.46	17.89**	18.97***	23.99***
18+ years of school	-	-	18.25	11.87	28.33***	28.62***
Husband present, children	3.68	12.20	-17.03***	-12.65***	-11.61***	- 8.05**
Husband present, no children	12.48	17.42	- 9.04***	- 7.84***	- 6.42	- 5.20
H.H.,not single, children	13.36	12.76	- 5.75	- 7.83**	- 1.33	- 1.56
H.H.,single, children	-	-	-10.46	-16.90	- 2.68	- 6.01
H.H.,not single, no children	9.43	13.13	- 3.25	- 1.25	4.06	4.62
H.H.,single, no children	8.11	7.10	6.13	4.76	8.49	8.06
Male H.H., not single	-	-	-22.15	-23.19*	-12.12	-21.68
Male H.H., single	-	-	-18.86**	-10.54	- 1.21	2.78
Not single, prim. or sec. individual	12.50	16.31	- 7.47*	- 7.69**	- 4.35	- 6.27
15-19 years of age	-	-	-12.15	-14.85	-	-
20-24 years of age	7.84	2.44	- 8.93***	- 6.16**	-34.56***	-28.32**
25-34 years of age	0.32	0.82	0.77	0.21	- 9.48**	- 7.83**
45-54 years of age	- 4.27	- 2.54	3.07	1.61	4.63	5.82*
55-64 years of age	0.22	0.27	2.01	1.63	4.93	6.96**
65+ years of age	- 9.33	0.31	- 3.69	0.17	-17.69***	-12.76**
Spanish surname	-11.09	- 6.00	10.68	7.85	- 4.38	7.98
Vocational training	- 3.88	- 4.62	- 6.66***	- 4.94***	- 4.81*	- 2.72
Weeks worked	-	0.88***	-	1.11***	-	1.20***
Hours worked	-	0.13	-	0.30***	-	0.11
Constant	27.04	-18.36	65.19	- 0.96	75.12	12.40
R^2	- .045	.254	.109	.350	.115	.204
N	103		1,182		1,189	
Mean earnings ($)	3,153		4,948		7,952	
Mean weeks worked	43.7		46.6		42.5	
Mean hours worked	29.6		35.2		34.4	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample.
U.S. Bureau of the Census

TABLE 3.15

Estimated Regression Coefficients, Dependent Variable Annual Earnings, by Occupational Segment, Black Females, Private Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 6.80	0.13	4.18	4.19	-	-
≤8 years of school	- 4.93***	- 4.54***	- 8.33***	- 7.54***	- 5.53	-11.14
9-11 years of school	- 2.21	- 2.24	- 8.47***	- 8.23***	-15.83	-12.49
13-15 years of school	- 4.91	0.60	45.51***	42.80***	- 0.70	- 6.28
16 years of school	-	-	-46.78***	-34.87**	14.59	28.10
17 years of school	-	-	-	-	-	-
18+ years of school	-	-	-	-	-	-
Husband present, children	- 5.35	- 3.64	- 9.98**	- 5.89	18.48	30.06
Husband present, no children	- 6.69*	- 5.34	- 6.05	- 3.99	16.37	26.16
H.H., not single, children	- 0.80	- 0.32	- 0.22	2.00	29.24	32.92
H.H., single, children	- 8.51	- 3.49	- 7.27	- 5.38	-	-
H.H., not single, no children	- 5.13	- 5.58	1.66	2.90	43.97	45.99
H.H., single, no children	- 5.21	- 4.90	- 3.19	- 3.00	-	-
Male H.H., not single	- 4.83	- 2.38	-11.93	- 6.53	-	-
Male H.H., single	-22.68	-13.13	6.98	8.04	-	-
Not single, prim. or sec. individual	- 1.97	- 1.84	- 3.31	- 2.00	7.19	13.56
15-19 years of age	5.19	5.01	-27.31***	-14.96	-	-
20-24 years of age	- 3.05	- 3.68	- 6.10*	- 3.67	-	-
25-34 years of age	- 2.01	- 1.54	- 4.52*	- 3.43	3.67	10.21
45-54 years of age	- 0.45	- 0.75	- 2.25	- 2.16	0.52	6.78
55-64 years of age	- 2.97	- 2.66	- 3.11	- 2.94	7.87	13.93
65+ years of age	-10.05***	- 7.21***	-16.52**	-10.11	10.69	16.16
Vocational training	- 5.94**	- 4.70**	- 3.58*	- 3.89	- 7.35	- 9.23
Non-competitive industry	20.03***	18.25***	9.93***	8.71***	- 8.34	-15.66
Weeks worked	-	0.31***	-	0.65***	-	0.98**
Hours worked	-	0.20***	-	0.09	-	0.58
Constant	32.44	11.35	50.13	13.44	30.71	-50.06
R^2	.168	.317	.162	.295	- .052	.064
N	584		493		52	
Mean earnings ($)	1,918		3,685		4,619	
Mean weeks worked	41.4		46.3		49.1	
Mean hours worked	29.5		34.6		36.0	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression excluding weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.16

Estimated Regression Coefficients, Dependent Variable
Annual Earnings, by Occupational Segment, Black Females,
Public Sector (x 10^2 Dollars), 1970

Variable	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	A	B	A	B	A	B
Currently Attending School	- 7.29	2.59	-12.95	-14.62	16.59	18.93
≤8 years of school	-11.89*	- 9.31	-10.61	-14.11	-	-
9-11 years of school	- 8.32	- 6.32	2.76	0.76	18.96	18.77
13-15 years of school	-17.23	-33.24	4.64	1.69	52.18**	59.57**
16 years of school	-	-	- 3.37	- 5.21	-27.29	-26.03
17 years of school	-	-	43.26	46.21	-21.45	-20.22
18+ years of school	-	-	-	-	-11.93	- 9.50
Husband present, children	-23.49	-19.31	11.71	10.49	3.75	2.47
Husband present, no children	-22.37	-17.18	- 7.82	-11.15	11.04	7.38
H.H., not single, children	-32.71*	-31.95*	1.93	- 4.05	46.91***	37.21***
H.H., single, children	-36.45*	-37.80**	-11.78	-17.90	-	-
H.H., not single, no children	-23.03	-22.43	-19.94	-23.25	16.74	14.87
H.H., single, no children	-11.26	-10.30	20.37	16.37	- 1.14	- 3.30
Male H.H., not single	-	-	-37.58	-36.57	-54.01	-13.55
Male H.H., singe	-	-	-29.41	-33.78	-	-
Not single, prim. or sec. individual	-	-	-13.98	-17.36	- 3.30	- 0.23
15-19 years of age	-	-	-	-	-	-
20-24 years of age	-15.37	- 3.48	- 1.64	- 3.01	-	-
25-34 years of age	- 3.11	1.91	12.74	11.24	- 6.13	- 3.68
45-54 years of age	4.77	5.13	20.37	20.26	4.47	1.68
55-64 years of age	2.74	3.70	54.04***	52.49***	- 0.31	- 1.12
54+ years of age	-	-	11.65	13.56	-33.83	-25.32
Vocational training	- 5.90	- 5.72	10.49	10.40	-17.19**	-16.88**
Weeks worked	-	0.39	-	- 0.44	-	1.27***
Hours worked	-	0.18	-	0.68**	-	- 0.14
Constant	67.06	35.83	32.16	32.85	52.44	- 1.26
R^2	.200	.293	- .006	.006	.172	.263
N	44		203		140	
Mean earnings ($)	2,943		5,327		7,376	
Mean weeks worked	46.7		45.3		42.6	
Mean hours worked	32.1		35.0		34.8	

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

A = Regression exclusing weeks and hours worked/B = Regression including weeks and hours worked.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample,
U.S. Bureau of the Census

TABLE 3.17

Adjusted Means of Earnings by Race, Sex, Type of Occupation, and Private and Public Sector, 1970 (In Dollars)

	Occupational Segment/Sector					
	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
Race/Sex	Private	Public	Private	Public	Private	Public
White Males	5,885	5,356	8,531	7,805	14,051	11,254
Black Males	4,404	5,382	6,608	6,871	8,631	10,465
White Females	3,221	3,529	4,763	5,164	6,892	8,204
Black Females	2,651	3,604	4,097	5,527	4,334	7,066

Source: Tables 3.9 to 3.16

TABLE 3.18

Ratios of Adjusted and (Unadjusted) Earnings -- Black/White and White Male/Female, by Occupation and Sector, 1970

	Occupational Segment/Sector					
	Secondary/Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
Race/Sex	Private	Public	Private	Public	Private	Public
Black/White Males	0.75 (0.70)	1.00 (0.88)	0.77 (0.70)	0.88 (0.86)	0.61 (0.56)	0.93 (0.92)
White Females/ White Males	0.55 (0.55)	0.66 (0.56)	0.56 (0.51)	0.66 (0.60)	0.49 (0.43)	0.73 (0.66)
Black Females/ White Males	0.45 (0.33)	0.67 (0.52)	0.48 (0.43)	0.71 (0.64)	0.31 (0.33)	0.63 (0.61)

Source: Tables 3.17 and Tables 3.09 to 3.16

This yielded the "predicted" white male earnings in that occupation in the private sector.

2. The mean value of each variable for white males working in the private sector was then multiplied by the corresponding coefficient in the white male public sector equation by job type and in the equation for blacks and women in the private and public sector. This yielded the mean earnings by race and sex for each job type assuming that the average personal characteristics and time worked for blacks and women in the private and public sector and white males in the public sector are the same as those of white males in the private sector for the same type of job.[5]

The unadjusted mean incomes (shown in Tables 3.9-3.16) indicate that black males in the private sector earned about 60-70 percent of white male income and about 90 percent of white male income in the public sector. White women earned about 45-55 percent of white male income in the private sector and 55-65 percent in the public sector. Black women earned 35-45 percent of white male salaries in the private sector and 50-65 percent in the public, all these percentages varying with the type of job. These percentages are shown in parentheses in Table 3.17.

When the earnings are corrected for differences in personal attributes and time worked during the week and year, the ratios change somewhat for black males in the private sector and for women (Table 3.17). Black males in the private sector earn adjusted incomes of 60-75 percent of white male income, a relative increase of about 6 percent. In the public sector, however, the adjustment has an even smaller effect on the ratio of black to white earnings except in secondary jobs.[6] For white women, adjusting earnings increases the ratio of their earnings relative to white males up to 50-55 percent in the private sector and 65-70 percent in the public sector. Black women's relative salaries increase to 30-50 percent of white male incomes in the private sector and 60-70 percent in the public.

Differences in these adjusted earnings, then, represent a discrimination effect which cannot be rationalized in terms of the quantity of education, age, training, time worked and other variables in our equations. To understand this in more detail, here are five examples of our calculations:

1. The mean earnings of black males in primary subordinate jobs in the private employment sector is $6,015. The predicted average income of these workers, using the regression estimate for black males in Table 3.11 and the mean characteristics of white males in primary subordinate jobs in the private sector is $6,608. In other words, if black males in primary subordinate jobs were distributed across educational and age categories and the same percentage were married and worked in the noncompetitive sector, etc., as white male primary subordinate workers in the private sector, their average earnings would be $6,608 or $608 more than the actual average earnings. Of this increase, about $100 is due to the greater time worked by whites. White males in the same job category and sector average $8,531 (see Table 3.9); therefore, of the $2,500 difference in unadjusted earnings of white and black males in the private sector, only $600 or 25 percent can be explained by differences in "wage-valued" personal characteristics and time worked.[7]

2. The mean earnings of black males in professional/administrative jobs in the private sector is $7,867. The predicted earnings of the

same group, assuming that their education, age, etc. distribution is the same as private employed white males in professional jobs, is $8,631, or an increase of $800.[8] Of this increase, only a negligible amount can be attributed to a difference in time worked by blacks and whites in this labor market. Since the predicted income of white males in the private sector was $14,051, the increase of $800 only represents about 16 percent of the difference in average salaries between black and white males in private sector professional jobs.

3. The mean income of white women in professional/administrative jobs in the private sector averaged $6,088 in 1970, $8,000 less than white males in the same job category. Assuming that these women have the same attributes as white male professionals (except marital status), and applying the estimated equation in Table 3.13 yields an increase in predicted women's average salary to $6,892, an increase more than entirely accounted for by the difference in time worked by white men and women professionals in the private sector. Thus less than 10 percent of the difference in wages is attributable to differences in characteristics, and that ten percent is due to time worked differences. Since white women, on average, attend the same quality schools as white men, the large unexplained salary differential is either the result of differential work experience, which we do not measure with our variables (age for women is usually not a good measure of experience because of movement in and out of the labor force) and discrimination against women.

4. As far as the difference between average black male public sector and white male public sector professional wages ($12,130 for whites and $11,107 for black males), we perform the same estimate, using

white male private sector professional means for attributes and substituting them in the white and black male estimated public sector regression equation (Tables 3.10 and 3.12). Doing this results in a decrease of $900 in whites/ average salary and $590 in blacks'. However, if we use white public sector means, blacks' average salary rises by $904, of which $340 is due to greater time worked by whites in the public sector. The overall increase under the latter calculation reduces the difference in black/white average salary in the public sector to about $120, which means that, for all intents and purposes, black and white male adjusted salaries are equal. This does not mean that there is no discrimination at the professional/administrative level in the public sector, since the amount of time worked, as we have already noted, may be a source of such discrimination. But our results indicate that the source of salary differentials in this sector can be attributed to differences in personal characteristics of the labor force in those jobs and the amount of time worked weekly and annually.

5. Professional/administrative women in the public sector earned, on the average, much less than white males in the same category of jobs ($7,952 vs. $12,130 in 1970). Correcting for the differences in personal attributes between men and women (except the marital status variable which is not comparable between men and women) increases women's average salary by $300. Time worked differences account for more than $900, largely due to the 8 weeks more per year worked by men in the private sector. If we use public sector male personal attributes, we increase white female salaries by $1,400, of which $850 are due to time worked differences. Thus, even in this latter case, personal attribute differences only account for about one-third on the male/female salary

differences in public sector professional jobs, and much of this is the result of the greater average number of weeks worked per year by men. Unlike salary differences between black and white males, then, public sector salary differences between men and women cannot be explained by differences in personal characteristics.

Tables 3.17 and 3.18 and these detailed descriptions lead us to conclude that less of the difference in earnings between men and women than between blacks and whites can be explained by differences in personal characteristics of those groups. Furthermore, time worked is the most important contributor to the "explainable" part of salary differences between men and women, while personal characteristic differences are more important in explaining the "explainable" part of income difference between black and white males.

We are left with a discrimination effect of about 25-40 percent in the case of black men in the private sector; about 45-50 percent for white women in the private sector; and 55-70 percent for black women. In the public sector this discrimination effect is smaller, particularly if earnings are standardized on the means of white males in that same sector. In that case, the effect is less than 10 percent for black males and about 30 percent for women.

Our adjusted public sector earnings using private sector white male attributes are, however, useful for another calculation: we stated above that the public sector paid higher salaries to blacks and women than the private sector and lower salaries to white men even when education, age and other differences between the two sectors were accounted for. Taking the adjusted income in Table 3.17, we estimate the following private/public earnings ratios with race/sex group and job type:

		Labor Market	
	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
White Males	1.10	1.09	1.25
Black Males	0.82	0.96	0.82
White Females	0.91	0.92	0.84
Black Females	0.74	.74	0.61

We find that, in general, our statement is true: white males do receive substantially higher adjusted earnings in the private sector, especially in higher level jobs, black men receive higher adjusted salaries in the public sector; and women (particularly black women) receive substantially higher salaries in the public sector.

We conclude that the public sector does discriminate less than the private sector largely by paying white males less for the same attributes and time worked than they receive in the private sector and paying blacks and women more. Nevertheless, in the case of women, the public sector still pays much lower salaries than to white and black males, even when personal characteristic and time worked differences are accounted for.

Our results are not in complete agreement with a previous study using the 1970 census data. In a 1975 article, James Long (1975) estimated adjusted earnings ratios by the same "simulation" method. His results indicate that the black/white adjusted earnings ratio for males in the private employment sector is 0.72 (while we got about 0.75) and is 0.76 in federal employment, whereas we find a ratio of 0.92 for the public sector as a whole using white male private sector means and a ratio of 0.95 using white male public sector means. For women in the private sector, Long estimates the ratio as 0.59, while we estimated a ratio closer to 0.54. For federal employment, Long estimates a male/female ratio of 0.74, while we estimate about 0.69 for all public employment for white females. Our estimates for black females are 0.43 and 0.66 for the private and public sector respectively. And when we use public sector white male means in the simulation for public sector white females we get about 0.74. So while we agree with Long on the degree to which the public sector equalizes incomes for women, our estimates indicate a greater equalization for black males in the public sector than he shows. Indeed, in higher and lowest level jobs in the public sector we show close to complete equalization of adjusted incomes (we explore this proposition in more detail in the next chapter).

Spanish Surname Discrimination in the Private and Public Sectors

Tables 3.9 to 3.16 also provide us with information on salaries paid to white Spanish surname employees in different job types in the public and private sectors.[9] The estimates in Tables 3.9 and 3.10 show that, all other variables accounted for, those white male employees in the private sector with Spanish surnames receive significantly lower salaries in all job categories, but in the public sector receive lower salaries only in menial jobs.[10] The size of this negative effect does not diminish in either sector when time worked is controlled for.

For Spanish surname women, the difference between the private and public sector is less clear: although the coefficient of Spanish surname in the private sector is generally negative, it is significant only in primary subordinate jobs, where its size decreases when time worked is included as a variable. In the public sector -- at least in the two job types for which we were able to estimate equations -- the coefficients of Spanish surname is generally positive, but not significant statistically.

Overall, it appears that when education, age, and other variables are accounted for, Spanish surname workers (both men and women) do better in the public sector than in the private, where they are more likely to receive lower salaries than their non-Spanish surname co-workers.

Is Education Rewarded Differently in the Public and Private Sector?

Finally, the within group regressions enable us to discuss the role that education plays in salary within the public and private sector. To do this, we examine coefficients of the different levels of schooling in each job type. Since job type is correlated with educational level, the education levels relevant to those in menial jobs are lower than those in primary subordinate jobs, and the education levels of those in the latter are lower than for those in professional and administrative jobs. Thus for white males, we see that the pay-off to high school completion over incomplete high school (all coefficients are read as the earnings difference between those with that level of schooling and those who complete high school -- the left out dummy variable) is approximately the same in public and private employment, but that the pay-off of completing high school over primary schooling is less in the public sector. The hierarchy of rewards to schooling in the primary subordinate segment is almost identical in the two sectors through some years of college, but for those who are professionals, the pay-off to additional schooling is much higher in the private sector, except for those who go to some years of college but do not complete. It seems that -- at least with all age groups mixed together -- the reward to completed college and higher for white males in the public sector is low.

For black males, the situation is completely opposite: The difference in earnings in secondary jobs between those who completed high school and those who completed primary school or less is much greater in the public than in the private sector. In the primary subordinate jobs, the pay-off to completing high school over some years of secondary school and over primary school or less is also much higher in the public than in the private sector, although there is some indication that college has a higher reward for blacks in private sector primary subordinate jobs (the coefficients are not statistically significant, however). Again, as professionals blacks gain much more from graduate education in the public sector jobs than in the private sector, although college completion seems to be more highly rewarded in the private sector.

We observe the same phenomenon for women, although the picture from our results is not as clear for black women. For white women in both primary subordinate jobs -- where the gain to completing high school is higher in the public sector, while the gain to taking college is about the same in the two sectors -- and in professional jobs -- where (like for black males) the pay-off to completing college is higher in the private sector, but the reward to graduate school is higher in public employment -- the public sector seems to reward white women more for additional schooling than the private sector. (Schooling is not an important factor in the secondary labor market.) As we noted, the picture for black women is less clear. There appears to be a higher gain to completing high school for those black women working in menial jobs in the public sector, but in primary subordinate jobs, the pay-off

TABLE 3.19

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, Males, 1970 (Percent)

	(1)	(2)	(3)	(4)
	White Males		Black Males	
Variable	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.
College 5 years ago	.031	.174***	-.067	.313***
≤8 years of school	-.075***	-.056***	-.081**	-.020
9-11 years of school	-.059***	-.045***	-.078**	-.025**
13-15 years of school	.170**	.139***	-.109	-.088*
16 years of school	-.145	.064***	-.096	.189***
17 years of school	-.245	.180***	-	.195**
18+ years of school	-	.209***	-	.175
Married	.130***	.021**	.062	.027
Was Married	.057	.037***	.028	-.005
15-19 years of age	.116**	-.043	-.093	-.006
20-24 years of age	.301***	.034***	.114**	-.021
25-34 years of age	.184***	.029***	.128***	.015
45-54 years of age	-.088***	-.021***	-.082**	-.008
55-64 years of age	-.135***	-.023***	-.041	-.014
65+ years of age	-.152***	-.040***	-.062	.032
Public Sector	.012	.008	-.002	.020
Self-employed	-.059	.138***	-.101	.128***
Vocational training	-.074***	-.006	-.076**	-.020
Private non-compet.	.030*	.000	.003	.020
Currently attend. sch.	-.025	.020	.092	.006
Spanish surname	-.087***	-.031*	-	-
R^2	.140	.109	.047	.106
Mean mobility	.316	.091	.201	.033
N of sample	3,885	14,092	924	1,132

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.20

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, Females, 1970 (Percent)

	(1)	(2)	(3)	(4)
	White Females		Black Females	
Variable	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.	Secondary → Prim.Subordin.	Prim.Subor. → Prim. Independ.
College 5 years ago	.251***	.157***	0.592***	.013
8 years of school	-.069***	-.020**	-0.081**	-.024
9-11 years of school	-.046**	-.005	-0.058	-.026
13-15 years of school	-.118	.107***	-0.176	.115
16 years of school	.261	.096***	0.873**	.169*
17 years of school	.272	.283***	-	.312**
18+ years of school	-	.171***	-	.784***
Husband present, children	-.094**	-.036***	-0.048	-.087**
Husband present, no children	-.087**	-.025**	-0.004	-.104**
H.H.,not single, children	-.100*	-.015	0.057	-.110**
H.H., single, children	.001	-.014	0.019	-.130*
H.H.,not single, no children	-.018	-.018	0.027	-.129**
H.H., single, no children	-.056	-.040**	-0.026	-.094
Male H.H., not single	-.023	.001	-0.132	-.148*
Male H.H., single	-.174*	-.052	0.072	-.130
Not single, prim. or sec. individual	-.017	-.011	-0.056	-.086*
15-19 years of age	.044	-.013	-0.161	-.118
20-24 years of age	.250***	.020*	0.147**	-.014
25-34 years of age	.123***	.024***	0.014	-.040*
45-54 years of age	-.031	-.004	-0.100***	-.025
55-64 years of age	-.098***	-.017*	-0.123***	-.027
65+ years of age	-.167***	-.032**	-0.128**	-.004
Public Sector	.171***	.036***	0.208***	.034*
Self-employed	.123**	.062***	0.399**	.003
Private non-compet.	.058***	.003	-0.004	.041
Spanish surname	-.065	-.039*	-	-
Vocational training	-.142***	.000	-0.179***	.005
Attending school	.059	.040**	-0.098	.134**
R^2	.111	.091	.144	.080
Mean mobility	.228	.058	.166	.056
N of sample	2,311	7,939	758	766

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

are regular across these groups: those workers with less schooling who are younger have greater mobility. Black married men have greater mobility than those who are single (white married's don't) while married women, nonheads of households, generally have lower mobility than single women who are not heads of household. Those with Spanish surname -- both men and women -- have lower mobility than their Anglo counterparts.

Mobility rates in the public sector are not significantly higher than in the private either for black or white males, but for women, they are much higher,[13] all this accounting for differences in education and age between the sectors.

Yet this does not tell us what the mobility rates differences are between black and white males and between women and men in the private and public sectors, and what explains differences in mobility among those groups. To answer those questions, we turn to estimates of mobility rates by race/sex/public-private sector groups in Tables 3.21, 3.22, 3.23 and 3.24. From these four tables, we can see that in the private sector, white males have the greatest mobility from secondary to primary subordinate jobs and from primary subordinate to primary independent jobs. Blacks have lower mobility than whites for both men and women. Making the same kind of estimates as we did for earnings, we find that assuming white male characteristics for black males and white females produces the following results.

1. The white male mobility rate in the private sector over the five-year period covered by the census sample (1965-70) is 0.323 between secondary and primary subordinate jobs (about one-third of white males moved from menial to primary subordinate jobs in the five years). For black males, the figure is 0.205. When we use white male characteristics and black male mobility coefficients of those characteristics, we

TABLE 3.21

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, White Males, by Sector, 1970 (Percent)

	Public Sector		Private Sector	
Variable	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.
College 5 years ago	0.04	0.19***	0.02	0.16***
≤8 years of school	-0.06	-0.06***	-0.08***	-0.06***
9-11 years of school	-0.12**	-0.04**	-0.06***	-0.05***
13-15 years of school	0.14	0.07	0.19***	0.15***
16 years of school	-0.64*	0.21***	-0.12	0.04*
17 years of school	-	0.26***	-0.33*	0.17***
18+ years of school	-	0.43***	-0.05	0.16***
Married	0.07	-0.04	0.13***	0.03**
Was Married	-0.07	-0.03	0.07*	0.04**
15-19 years of age	-	-	0.09*	-
20-24 years of age	0.32***	0.08**	0.28***	0.03**
25-34 years of age	0.20***	0.02	0.17***	0.02***
45-54 years of age	-0.11*	-0.00	-0.10***	-0.02***
55-64 years of age	-0.19***	-0.02	-0.14***	-0.03***
65+ years of age	-0.23**	-0.05	-0.16***	-0.03*
Spanish surname	-0.08	-0.02	-0.09***	-0.03
Vocational training	-0.01	0.01	-0.09***	-0.01***
Non-compet. ind.	-0.03	-0.02	0.03	0.00
Currently attend. sch.	0.01	0.06	-0.02	0.01
R^2	.154	.198	.139	.091
Mean mobility	.291	.102	.323	.076
N	464	1,780	3,274	11,120

*Significant at 10% significance level.

**Significant at 5% significance level.

***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.22

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, Black Males, by Sector, 1970 (Percent)

	Public Sector		Private Sector	
Variable	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.
College 5 years ago	-0.54	0.58***	0.05	0.17***
≤8 years of school	-0.02	-0.04	-0.10**	-0.02
9-11 years of school	-0.10	-0.04	-0.08*	-0.02
13-15 years of school	-0.22	-0.12	-0.06	-0.06
16 years of school	-0.09	0.31***	-	0.09
17 years of school	-	0.14	-	-
18+ years of school	-	0.18	-	-
Married	0.01	-0.02	0.06	0.03*
Was Married	0.08	-0.04	0.01	0.01
15-19 years of age	-	-	-0.15	-
20-24 years of age	-0.01	-	0.12**	-
25-34 years of age	0.21**	0.01	0.11**	0.02*
45-54 years of age	0.00	-0.01	-0.10**	-0.00
55-64 years of age	0.04	0.02	-0.06	-0.01
65+ years of age	-0.02	-0.00	-0.07	0.00
Vocational training	-0.07	-0.01	-0.09*	-0.03**
Non-compet. ind.	-	-	-0.00	0.02
Currently Attend.sch.	0.38	-0.06	0.08	0.05
R^2	- .012	.244	.060	.048
Mean mobility	.196	.053	.205	.019
N	168	244	741	834

*Significant at 10% significance level.

**Significant at 5% significance level.

***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.23

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, White Females, by Sector, 1970 (Percent)

Variable	Public Sector Secondary → Prim.Subordin.	Public Sector Prim.Subor. → Prim.Independ.	Private Sector Secondary → Prim.Subordin.	Private Sector Prim.Subor. → Prim.Independ.
College 5 years ago	0.37	0.20***	0.17	0.07***
≤8 years of school	-0.16*	-0.04	-0.06***	-0.02***
9-11 years of school	-0.01	-0.01	-0.06***	-0.00
13-15 years of school	0.27	0.07	-0.24	0.10***
16 years of school	-0.40	0.27***	0.53***	0.02
17 years of school	-	0.43***	-0.06	0.21***
18+years of school	-	0.45***	-0.33	0.01
Husband present, children	-0.30*	-0.02	-0.08	-0.03**
Husband present,no children	-0.23	-0.00	-0.08	-0.02*
H.H.,not single, children	-0.11	0.03	-0.08	-0.02
H.H.,single,children	0.31	0.26*	-0.04	-0.04
H.H.,not single,no children	0.01	0.03	-0.02	-0.01
H.H., single, no children	-0.11	-0.05	-0.05	-0.03*
Male H.H., not single	-	0.31***	-0.01	-0.04
Male H.H., single	0.55	0.02	-0.19*	-0.05
Not single, prim.or sec. individual	0.01	0.03	-0.02	-0.01
15-19 years of age	-	-0.01	0.03	0.00
20-24 years of age	0.34**	0.04	0.24***	0.01
25-34 years of age	0.07	0.00	0.11***	0.03***
45-54 years of age	-0.02	-0.03	-0.04	0.00
55-64 years of age	-0.19	-0.06**	-0.09***	-0.01
65+ years of age	-0.41**	-0.04	-0.16***	-0.03*
Spanish surname	-0.17	-0.09	-0.06	-0.03
Vocational training	-0.16	0.02	-0.12***	-0.01**
Non-compet. ind.	-	-	0.06***	0.00
Currently attend. sch.	0.08	0.14***	0.11	0.00
R^2	.184	.270	.094	.031
Mean mobility	.383	.107	.212	.045
N	167	1,323	2,078	6,148

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 3.24

Estimated Regression Coefficients, Dependent Variable Intersegment Mobility, Black Females, by Sector, 1970 (Percent)

	Public Sector		Private Sector	
Variable	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.	Secondary → Prim.Subordin.	Prim.Subor. → Prim.Independ.
College 5 years ago	0.51	-0.14	0.63***	0.07
≤8 years of school	-0.19	-0.04	-0.06	-0.02
9-11 years of school	-0.04	-0.04	-0.05	-0.02
13-15 years of school	0.43	0.04	-0.02	0.25**
16 years of school	-	0.39**	-	-0.05
17 years of school	-	0.25	-	0.72***
18+ years of school	-	0.90***	-	-
Husband present, children	0.15	-0.21***	-0.05	-0.00
Husband present, no children	-0.01	-0.26***	0.02	-0.01
H.H., not single, children	0.29	-0.19**	0.06	-0.04
H.H., single, children	-0.04	-0.24	0.07	-0.06
H.H., not single, no children	0.67	-0.21*	-0.00	-0.05
H.H., single, no children	0.33	-0.06	-0.04	-0.07
Male H.H., not single	-	-0.38*	-0.13	-0.07
Male H.H., single	-	-0.27	0.11	-0.03
Not single, prim. or sec. individual	-0.12	-0.20**	-0.04	0.00
15-19 years of age	-	-	-0.17	-0.07
20-24 years of age	-0.42	-	0.21***	-0.01
25-34 years of age	-0.02	-0.04	0.01	-0.04
45-54 years of age	-0.08	0.01	-0.10***	-0.04
55-64 years of age	0.02	-0.00	-0.13***	-0.02
65+ years of age	0.75	0.25	-0.15**	-0.04
Vocational training	-0.19	0.03	-0.18***	-0.02
Non-compet. ind.	-	-	-0.01	0.04*
Currently attend. school	-0.40	0.12	-0.12	0.15***
R^2	.072	.098	.114	.082
Mean mobility	.397	.090	.140	.041
N	73	233	679	514

*Significant at 10% significance level.
**Significant at 5% significance level.
***Significant at 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample. U.S. Bureau of the Census predict a mobility rate of 0.239 for black males. This means that we can explain 0.034/0.118, or 29 percent, of the difference between white and black male mobility rates by the different distribution of personal characteristics between the two groups. The other 70 percent could be viewed as discriminatory barriers to mobility, although some characteristics like motivation are probably not picked up by our variables.

2. The difference in secondary/primary subordinate mobility rates between white men and women in the private sector is 0.323 vs. 0.212 (0.111) a figure very similar to the white/black male difference. When we do our adjustment using the white female coefficients with white male characteristics (except for marital status which is not comparable for the two groups), the mobility rate for women goes up to 0.257, or an increase of 0.045/0.111 -- 40 percent of the original difference. Thus a higher percentage of the male/female mobility difference can be explained by differences in education, age, etc. than for black/white differences, just the opposite to the earnings adjustment results.

3. For mobility primary subordinate/primary independent differences in the private sector, there is a similar result, but even less favorable for both groups. Although mobility rates in the private sector between these two kinds of jobs are not high even for white males, we can explain very little of the difference which does exist between blacks and whites, men and women, by adjusting for differences in personal characteristics of the people in these job types of different race and sex. Of the 0.057 difference (0.076 - 0.019) in mobility between black and white men, we can explain 0.003/0.057, or 5 percent by the adjustment. For white women, we can explain 0.007 of the 0.031

difference in mobility rate, or 22 percent. Again, there appear to be barriers to mobility for blacks and women which reduce their possibility to move up to higher paying jobs, and these barriers appear to be greater for blacks than for white women.

4. Turning to the public sector, differences in mobility rates between groups are much smaller than in the private sector, and women, both white and black have almost as high (primary subordinate/primary independent black women) or higher (all other cases) mobility rates in the public sector than white males. In that sense, there appears to be some barriers to mobility for white males in the public sector between menial and primary subordinate jobs in comparison with women's mobility. Of the .092 difference in mobility rates between white men and women moving from menial to primary subordinate jobs in the public sector (0.383 vs. 0.291), we can only explain 0.020 by the higher education, age, etc. of the women. Almost 80 percent of the difference remains unexplained.

5. But black males, even in the public sector, have the lowest mobility rates of all. When we adjust up to white male characteristics, we raise black male mobility between secondary and primary subordinate jobs from 0.196 to 0.254, which leaves less than 40 percent of the white/black difference unexplained. In the case of mobility from primary subordinate to primary independent jobs, however, we can only raise black male mobility from 0.053 to 0.068, which leaves 70 percent of the white/black difference unexplained. Again, as in the private sector, there seems to be a greater barrier to mobility for black males into higher level than into middle level jobs, although, overall, barriers to blacks seem to be much lower in the public than in the private sector.

To summarize, upward mobility between jobs in the private sector is much higher for white males than for any other groups, and only a small portion of this higher mobility can be explained by the difference between groups of the composition of personal characteristics which play a role in explaining mobility. For white women, "barriers" to mobility appear to be less than for blacks. In the public sector, furthermore, these barriers seem to be a good deal smaller than in the private sector; indeed, women have generally higher mobility rates than white men, especially from lowest level jobs to middle level jobs. Black men in the public sector do better relative to white mobility than in the private sector, but in the upward movement into professional jobs, a large fraction of the white/black difference cannot be explained by the higher education, age, etc. of white males. Thus for black males there apparently continue to exist some discrimination in moving from lower to higher level jobs.

We should note that this does not imply anything about those who enter directly into professional or middle level jobs and stay there. In these last few pages, we have only discussed the differential possibilities of moving from a lower level job to a higher level in a five-year period. The barriers we discussed, therefore, have to do with difficulties of getting into a higher level job if one starts in a lower level job, not of the difficulties of entering a higher level job with a certain amount of schooling.

Footnotes - Chapter 3

1. For a review of the discrimination literature, see Thurow, 1969.

2. Welch and others have argued that a significant portion of the differin income between white and black males in the labor force with the same number of years of schooling can be explained by the difference in the quality of schooling taken by the two groups. He contends that black-white earnings differences are falling over time, and largely because of the relative increase in the quality of black schooling (Welch, 1973).

   Fuchs argues that women's lower wages can be explained largely by marital status and turnover rates (Fuchs, 1971).

   We were able to examine marital status as a factor in wage differences, but not quality of schooling or turnover rates (we did concentrate our analysis, however, on those workers -- both men and women -- who reported being in the labor force in 1965 and 1970.

3. On theoretical (neo-classical) grounds Becker (1957) argues that competitive industries discriminate less than monopolistic ones. He presents empirical data which support this argument. Furthermore, he argues that discrimination in competitive industries increases as the relative supply of non-whites increases (if there are more non-whites than whites, there may be more discrimination in competitive than monopolistic industries). But Beckers' measure of discrimination is limited to the relative number of non-whites hired. Our results on employment generally agree with Becker's but using relative salaries paid as a discrimination measure, we get exactly the opposite result, with monopolies paying higher relative salaries than competitive industries. In that sense, concentrated industries discrminate less than competitive.

4. The individuals covered by our analysis are those who have reported being in the same labor market both in 1965 and 1970.

5. We did not adjust women's earnings for difference between their marital status and the status of white males in the private sector. We used the marital status distribution of white females in the private sector for all women's equations. This type of calculation biases women's adjusted earnings upward in lower occupation/sector groups since the percentage of married men in the labor force is greater than the percentage of married women and the coefficient of being married (and living with spouse -- husband present children and no children) is generally negative in secondary and primary subordinate jobs. However, the bias is downward for women in the primary independent labor market because coefficients for being married are positive.

6. However, if the mean values of white male characteristics in the public sector are used instead of private sector charactersitics, black male/white male ratios rise to .93 and .99 for primary subordinate and primary independent jobs, and fall to 0.95 for secondary jobs.

Footnotes - Chapter 3 (continued)

7. Since the time worked by blacks and whites may also be the result of discrimination, the 30 percent represents a "maximum" estimate of the difference in earnings due to differences in wage-related personal characteristics. Of course, we have not measured the difference in quality of education taken by blacks and whites, but given that black males in this work category had 1.4 years of schooling less than white males, it is difficult to conceive that the effect of correcting for quality of education differences would be substantially greater than several hundred dollars at the extreme. This would still leave a sizeable "discrimination" effect.

8. The regression equation estimated for black males in primary independent jobs in the private sector has no significant coefficients, so the results of this exercise are somewhat suspect,

9. Although it was possible for a person to be Black and have a Spanish surname, the number of persons responding in such a manner was so small that we limited our analysis only to whites with a Spanish surname. For an explanation of how a Spanish surname was coded for a respondent see U.S. Bureau of the Census (1972).

10. Of course, Spanish surname workers represent more than 6 percent of menial workers in our sample of white male publicly employed menial workers, 2 percent of primary subordinate white male public workers, and less than one percent of professionals. In the type of jobs where they are most highly concentrated, then, Spanish surname workers in the public sector are discriminated against.

11. Our results here and in Chapter 4 (Tables 4.5 to 4.8) should be compared with Arthur Corazzini's results for federal employees, particularly white collar employees (Corazzini, 1972). Corazzini found higher education coefficients for non-white than for white employees and for females than for males. This is not inconsistent with our results, even though we used dummy variables for education, not a continuous variable as did Corazzini. But his conclusion that "the elimination of salary differentials between men and women may be more easily accomplished in the short run through equal employment opportunity policy measures than will the black/white differential" (Corazzini, 1972, p. 444) is completely the opposite to the conclusion we have reached in this chapter. Of course, Corazzini came to this conclusion on the basis of regression coefficients only, not on simulation of earnings.

12. The dependent variable here is a dichotomous variable (mobility or non-mobility) which measures the probability of moving from one occupational segment to another between the years 1965 and 1970. Since it is dichotomous the error term of the least-squares regression is not normally distributed. Thus a profit analysis (maximum likelihood estimation) is more appropriate to obtain non-biased estimators.

13. Mobility of those who are self-employed seems to be higher than in any sector, however.

APPENDIX B

Mean Values (Percentage Distribution) of Worker Characteristics, by Occupation, Sector, Race, and Sex

APPENDIX TABLE B.1

Mean Values (Percentage Distribution) of Worker Characteristics, by Occupation and Sector, White Males, 1970

Variable Name	Private Sector			Public Sector		
	Secondary/ Secondary	Prim.Sub/ Prim.Sub.	Prim.Ind/ Prim.Ind.	Secondary/ Secondary	Prim.Sub/ Prim.Sub.	Prim.Ind/ Prim.Ind.
Att. School	.060	.017	.026	.033	.024	.056
<8 years school	.404	.235	.039	.429	.154	-
9-11 years school	.270	.249	.078	.237	.214	.042
13-15 years school	.014	.052	.474	.009	.066	.707
16 years school	.007	.029	.242	.006	.032	.199
17-18 years school	.002	-	.076	-	.012	.169
18+ years school	-	-	.117	-	.006	.316
Married	.754	.881	.906	.812	.888	.896
Was Married	.079	.055	.035	.064	.047	.036
15-19 years old	.053	.006	-	-	.001	-
20-24 years old	.080	.046	.009	.040	.029	.005
25-34 years old	.178	.235	.200	.103	.189	.203
45-54 years old	.225	.255	.278	.264	.304	.289
55-64 years old	.206	.180	.159	.313	.192	.187
65+ years old	.059	.031	.039	.079	.034	.030
Spanish Surname	.066	.018	.009	.064	.022	.006
Vocational Training	.851	.697	.676	.742	.648	.752
Non-comp. Ind.	.270	.316	.396	-	-	-

Source: U.S. Department of Commerce, Bureau of the Census, 1/1000 Public Use Sample, 1970.

APPENDIX TABLE B.2

Mean Values (Percentage Distribution) of Worker Characteristics, bu Occupation and Sector, Black Males, 1970

Variable Name	Private Sector Secondary/ Secondary	Private Sector Prim.Sub/ Prim.Sub.	Private Sector Prim.Ind/ Prim.Ind.	Public Sector Secondary/ Secondary	Public Sector Prim.Sub/ Prim.Sub.	Public Sector Prim.Ind/ Prim.Ind.
Att. School	.024	.016	.014	.015	.048	.053
<8 years school	.559	.346	.130	.430	.152	-
9-11 years school	.248	.307	.130	.333	.277	.013
13-15 years school	.005	.021	.377	.030	.113	.760
16 years school	-	.011	.217	-	.048	.227
17-18 years school	-	-	.029	-	.022	.133
18+ years school	-	-	.101	-	.013	.347
Married	.722	.800	.855	.785	.805	.747
Was Married	.144	.121	.087	.126	.126	.147
15-19 years old	.036	.005	-	-	-	-
20-24 years old	.068	.046	-	.059	.030	-
25-34 years old	.173	.281	.203	.148	.160	.253
45-54 years old	.244	.227	.217	.296	.294	.293
55-64 years old	.214	.127	.174	.237	.117	.120
65+ years old	.064	.022	.101	.044	.022	.027
Spanish Surname	-	-	-	-	-	-
Vocational Training	.888	.824	.696	.837	.701	.733
Non-comp. Ind.	.207	.262	.290	-	-	-

Source: U.S. Department of Commerce, Bureau of the Census, 1/1000 Public Use Sample, 1970.

APPENDIX TABLE B.3

Mean Values (Percentage Distribution) of Worker Characteristics, by Occupation and Sector, White Females, 1970

Variable Name	Private Sector			Public Sector		
	Secondary/ Secondary	Prim.Sub/ Prim.Sub.	Prim.Ind/ Prim.Ind.	Secondary/ Secondary	Prim.Sub/ Prim.Sub.	Prim.Ind/ Prim.Ind.
Att. School	.013	.015	.036	.010	.022	.059
<8 years school	.336	.145	.036	.379	.073	-
9-11 years school	.334	.101	.097	.233	.151	.025
13-15 years school	.006	.036	.393	.010	.069	.799
16 years school	.001	.018	.162	.010	.036	.366
17-18 years school	.001	-	.054	-	.009	.188
18+ years school	-	-	.070	-	.003	.194
Civil Status 1	.318	.283	.296	.369	.286	.272
Civil Status 2	.332	.404	.299	.418	.376	.345
Civil Status 3	.071	.052	.049	.058	.055	.046
Civil Status 4	.005	.006	.003	-	.002	.002
Civil Status 5	.067	.049	.051	.039	.063	.045
Civil Status 6	.027	.037	.040	.010	.032	.048
Civil Status 7	.007	.008	.002	-	.002	.005
Civil Status 8	.009	.007	.003	-	.008	.005
Civil Status 9	.128	.100	.110	.078	.119	.103
15-19 years old	.013	.008	-	-	.004	-
20-24 years old	.047	.084	.020	.029	.071	.008
25-34 years old	.141	.191	.212	.107	.146	.199
45-54 years old	.306	.271	.279	.291	.295	.266
55-64 years old	.222	.198	.210	.272	.231	.262
65+ years old	.054	.044	.061	.078	.044	.053
Spanish Surname	.031	.014	.008	.058	.011	.002
Vocational Training	.893	.719	.574	.893	.652	.776
Non-comp. Ind.	.224	.308	.139	-	-	-

Source: U.S. Department of Commerce, Bureau of the Census, 1/1000 Public Use Sample, 1970.

APPENDIX TABLE B.4

Mean Values (Percentage Distribution) of Worker Characteristics, by Occupation and Sector, Black Females, 1970

Variable Name	Private Sector Secondary/ Secondary	Private Sector Prim.Sub/ Prim.Sub.	Private Sector Prim.Ind/ Prim.Ind.	Public Sector Secondary/ Secondary	Public Sector Prim.Sub/ Prim.Sub.	Public Sector Prim.Ind/ Prim.Ind.
Att. School	.009	.022	-	.046	.025	.043
≤8 years school	.515	.217	.115	.432	.123	-
9-11 years school	.286	.290	.192	.318	.217	.036
13-15 years school	.009	.014	.192	.023	.059	.771
16 years school	-	.010	.135	-	.015	.407
17-18 years school	-	-	-	-	.010	.164
18+ years school	-	-	-	-	-	.186
Civil Status 1	.243	.341	.308	.386	.370	.379
Civil Status 2	.207	.245	.346	.296	.207	.307
Civil Status 3	.128	.146	.115	.159	.163	.079
Civil Status 4	.022	.032	-	.068	.010	-
Civil Status 5	.135	.065	.077	.023	.064	.086
Civil Status 6	.036	.022	-	.046	.020	.029
Civil Status 7	.007	.014	-	-	.010	.007
Civil Status 8	.002	.002	-	-	.005	-
Civil Status 9	.187	.099	.115	-	.103	.036
15-19 years old	.012	.008	-	-	-	-
20-24 years old	.024	.085	-	.068	.059	-
25-34 years old	.140	.298	.269	.182	.345	.193
45-54 years old	.322	.227	.231	.341	.216	.329
55-64 years old	.221	.118	.192	.136	.113	.093
65+ years old	.070	.018	.038	-	.015	.014
Spanish Surname	-	-	-	-	-	-
Vocational Training	.920	.716	.500	.864	.611	.736
Non-comp. Ind.	.074	.217	.115	-	-	-

Source: U.S. Department of Commerce, Bureau of the Census, 1/1000 Public Use Sample, 1970.

CHAPTER 4

Federal, State, and Local Government Hiring and Salaries

Until now, our study has considered the public sector as monolithic. However, there may be considerable differences in hiring and salary policies, and the possible effect of schooling on salary differences in federal, state, and local branches of government. This chapter will explore some of those differences.

Tables 4.1a through 4.1d indicate that the largest public employer is local government. Of the 12,620 public employees in our sample, 6,251 or 49.5 percent were employed by local government. Only 25.8 percent were employed by the federal government, and 24.5 percent by state government.[1] But when it comes to black employment (both men and women), federal employment represents almost 33 percent of total public employment, and the state level only 19 percent, while local employment of blacks holds at 48 percent. For black males, the difference is even more accentuated, with the federal level employing almost 38 percent of black men and the state only 16 percent. On the other hand, the state level employs the same share of white women as white men, but the federal level employs only 17 percent of white women as compared to 32 percent of white men.

When we look at the employment of professionals and administrators (primary independent), the differences become even more accentuated. From Tables 4.1a - 4.1d, we calculate that only 7 percent of white women and 11 percent of black women publicly employed professionals were

TABLE 4.1a

Labor Force by Level of Government and Occupational Segment, Public Sector, 1970, White Males, Percent and (Number in thousands)

Occupational Segment	Level of Government		
	Federal	State	Local
Secondary	6.8 (125)	11.3 (172)	16.7 (421)
Primary Subordinate	52.0 (956)	34.6 (526)	40.2 (1013)
Primary Independent	34.9 (641)	50.6 (770)	39.4 (992)
Crafts	6.3 (116)	3.5 (54)	3.7 (93)
Total	100.0 (1838)	100.0 (1522)	100.0 (2519)
% of Total Public	31.6	25.8	42.7

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.1b

Labor Force by Level of Government and Occupational Segment, Public Sector, 1970, Black Males, Percent and (Number in thousands)

Occupational Segment	Level of Government		
	Federal	State	Local
Secondary	22.6 (70)	16.5 (44)	39.7 (152)
Primary Subordinate	61.3 (190)	38.8 (50)	38.6 (148)
Primary Independent	9.4 (29)	24.8 (32)	19.8 (76)
Crafts	6.8 (21)	2.3 (3)	1.8 (7)
Total	100.0 (310)	100.0 (129)	100.0 (383)
% of Total Public	37.7	15.7	46.6

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.1c

Labor Force by Level of Government and Occupational Segment, Public Sector, 1970, White Females, Percent and (Number in thousands)

Occupational Segment	Level of Government		
	Federal	State	Local
Secondary	5.7 (50)	5.8 (73)	7.0 (204)
Primary Subordinate	76.0 (664)	54.0 (675)	37.1 (1086)
Primary Independent	18.1 (158)	39.6 (496)	55.7 (1630)
Crafts	0.2 (2)	0.6 (7)	0.3 (9)
Total	100.0 (874)	100.0 (1251)	100.0 (2929)
% of Total Public	17.3	24.8	58.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample , U.S. Bureau of the Census

TABLE 4.1d

Labor Force by Level of Government and Occupational Segment, Public Sector, 1970, Black Females, Percent and (Number in thousands)

Occupational Segment	Level of Government		
	Federal	State	Local
Secondary	10.7 (25)	15.6 (29)	14.0 (59)
Primary Subordinate	76.9 (180)	53.8 (100)	43.1 (59)
Primary Independent	12.0 (28)	30.6 (57)	42.9 (180)
Crafts	0.4 (1)	-	-
Total	100.0 (234)	100.0 (186)	100.0 (420)
T of Total Public	27.9	22.1	50.0

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample , U.S. Bureau of the Census employed by the federal government in 1970; 71 percent of white women and 68 percent of black women professionals worked at the local level. This means that, for the most part, women have moved into these higher level jobs mostly through local government services, primarily education. In the last chapter, we shall explore the implications of school-age population decline for this group. Less obvious is the fact that 56 percent of black male professionals in public employment are also employed at the local level and 21 percent at the federal level (as compared with 27 percent of white males). Again, it is local government which has provided the bulk of higher paying jobs to black males.

Tables 4.2 and 4.3 show that salaries also vary considerably among levels of government. These are raw salaries, unadjusted for differences in average education and age of the employees, and they suggest that the federal pay scale is the highest among government sectors for all races, sexes, and types of occupation. State government salaries in general are the lowest, particularly for blacks. Table 4.3 indicates that local government pays the most equal salaries to black males relative to white males, with the federal level a close second. But, except for professional women, the local level pays the most unequal salaries to women (white and black). Interestingly enough, the federal government pays women increasingly unequal salaries with higher levels of work (higher pay, higher education), while local government pays the most unequal salaries at lower levels of work and pays more equally as occupation levels rise. Part of this may be explained by the more homogeneous types of jobs held by professional men and women at the local level, since such a high percentage of professional jobs at that level are in education. At the same time, there may be increasing homogeneity among

TABLE 4.2

Mean Earnings (Standard Deviation), by Level of Government and Occupational Segment and Race/Sex, 1970 (1970 Dollars)

Level of Government/Sex-Race

Occupational Segment	Federal				State				Local			
	WM	BM	WF	BF	WM	BM	WF	BF	WM	BM	WF	BF
Secondary	5543 (3285)	4756 (2660)	3582 (2570)	2980 (2274)	4198 (2980)	3482 (2133)	2151 (2030)	2741 (1632)	4937 (2905)	4936 (3161)	1915 (1841)	2408 (1679)
Primary Subordinate	8191 (4018)	6702 (3108)	4850 (2922)	4337 (2870)	6074 (3436)	4036 (2156)	3709 (2473)	3687 (2998)	7452 (4089)	5993 (3338)	3316 (2839)	3828 (5764)
Primary Independent	12442 (5572)	10931 (7108)	7187 (4385)	6028 (3851)	9820 (6428)	6562 (3841)	6220 (3875)	5172 (3440)	9702 (4857)	8859 (4692)	6379 (3969)	6322 (3530)

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.3

Salary Ratios, by Level of Government and Occupational Segment, White/Black and Male/Female, 1970 (1970 Dollars)

Occupational Segment/Level of Government

	Secondary			Primary Subordinate			Primary Independent		
	Federal	State	Local	Federal	State	Local	Federal	State	Local
White Male/ Black Male	1.165	1.206	1.123	1.222	1.505	1.243	1.138	1.496	1.095
White Male/ White Female	1.547	1.952	2.578	1.689	1.638	2.247	1.731	1.579	1.521
White Male/ Black Female	1.860	1.532	2.050	1.889	1.647	1.947	2.064	1.899	1.534

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

the jobs held by men and women in federal government. Later in this chapter, we adjust earnings for differences in time worked and personal characteristics of employees; that gives us a clearer picture of wage differentials in the three levels of government.

Time Trends in Government Expenditure and Employment

While in 1970, about 20 percent of public sector civilian employment was federal (and 17 percent in 1974), in 1955 more than 28 percent of public workers were federal (see Table 4.4). Thus the public sector employment growth which we discussed in Chapter 1 has been almost entirely a state-local level growth. Education sector employment alone increased 157 percent between 1955 and 1974, while federal employment only grew 19 percent in the same period (ACIR, 1976, p. 59). However, employment growth in public education slowed down considerably in 1970-1974.

Strangely enough, federal expenditures have fallen slightly since 1954 as a percent of total public expenditures and state and local -- particularly state -- have risen, but not enough to explain the differences in employment growth in the two levels of government. This is especially true when we consider that federal domestic expenditures (excluding defense) have risen rapidly since 1954 in comparison to state and local even when transfers from federal to state and local governments are accounted for. These latter figures show that local expenditures declined from 39 percent of the total in 1954 and 34 percent in 1974 and federal rose from 40 to 46 percent (ACIR, 1976, p. 12). So despite these growth patterns for expenditures, employment in state and particularly local government rose much more rapidly than federal government in the last twenty years. Professional level (primarily

TABLE 4.4

Time Trends in Public Sector Expenditure and Employment, 1954-1976 (billions of current dollars and percent)

	Calendar Year						
Expenditure	1954	1964	1969	1970	1972	1974	1976 Est.
Federal	69.8	118.2	188.4	204.2	244.7	300.1	390.6
Federal domest. (excludes defense & space)	22.7	54.2	92.9	110.1	149.2	194.5	265.7
State	12.7	27.3	49.6	55.9	65.4	85.6	102.3
Local	14.5	30.8	47.6	51.8	60.8	71.8	82.7
Percent Distribution							
Federal	72.0	67.0	66.0	65.5	66.0	65.6	67.9
State	28.0	33.0	34.0	34.5	34.0	34.4	32.1
Local							
Percent Distribution							
Federal domest.	45.5	48.3	48.9	50.5	54.2	55.3	59.0
State	25.5	24.3	26.1	25.7	23.7	24.3	22.7
Local	29.0	27.4	25.0	23.8	22.1	20.4	18.3
Percent Distribution After Intergovernmental Transfers							
Federal	39.7	39.0	38.2	39.3	40.6	42.8	45.8
State	21.4	22.5	23.4	22.9	22.8	21.8	20.7
Local	38.9	38.5	38.5	37.8	36.6	35.4	33.5

Percent of Public Employment	1955	1960	1965	1970	1974
Federal	28.2	24.8	21.3	19.2	17.4
State-local	71.8	75.2	78.7	80.8	82.6
Education	32.8	36.2	40.2	42.4	43.5
Non-school	38.9	39.0	38.5	38.4	39.1

Source: Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism, 1976 Edition (Washington, D.C.: ACIR, 1976) teachers and school administrators) women and blacks most probably have been the primary groups to gain from this expansion relative to opportunities in the private sector, and, for women, in the federal branch of the public sector.

On the other hand, between 1955 and 1970 (or 1974), the greatest gains in salaries in the public sector were at the federal level (ACIR, 1976, p. 61). Although salary gain differences are not large -- 1955 - 1974: 194 percent gain in federal jobs versus 182 percent in local/state jobs -- federal salaries already averaged much higher in 1955. Black and white males therefore gained income relative to women, particularly white women, who are most concentrated in state and local employment.

Relative Earnings Discrimination in the Public Sector

Without going into all the different kinds of discrimination we discussed in Chapter 3, we can calculate the earnings differences between blacks and whites, men and women, accounting for training, marital status, and time worked in the different levels of government employment. As in Chapter 3, this requires estimating earnings equations by occupation segment and sex in order to determine the contribution of more education, age (seniority), vocational training, and time worked in each case, and then calculating the earnings of blacks and women on the assumption that they had the same distribution of education, age, vocational training and time worked as white males.[2]

Such estimates implicitly assume, as we discussed in Chapter 3, that the productivity of a person, regardless of race or sex, is determined by education, experience, and training. We can go a step further and argue that different kinds of work reward people differently regardless of training or experience because of the different conditions of work in those occupations. Thus we have divided our labor force sample into "segments" (as in Chapter 3). These segments are composed of people employed in the same type of occupation over a five year period (1965 - 1970) -- a formulation which avoids, particularly for women, the argument that wage differentials between groups occur because of the temporary vs. permanent nature of working in the labor force. Furthermore, we have included time worked in our equations so that the coefficients of education, age, and training fit more closely the concept of the contribution of each of these variables to productivity per unit of time worked, and the earnings differentials between groups are corrected for differences in time worked (even though part of earnings discrimination may reside in differential intensities of employment provided by the labor market to different groups in the society).

We therefore follow the human capital assumption that the equalization of personal characteristics and time worked in the public labor market should result in equal wages in each job type in each level of government. On the other hand, our analysis will also tell us whether the federal, state, or local level of government discriminates most against blacks or women taking account of differences in personal characteristics and time worked.

The analysis is carried out in three steps:

1. We estimate earnings equations by occupational segment and race/sex, using level of government as a variable in the equation. These results give us the coefficients (earnings contribution) of education, age, marital status, training, time worked, and level of government worked in for each race/sex group and each occupational segment (only those people who worked in a segment for the five year period -- 1965 - 1970 -- are included in these estimates).

2. We estimated the "predicted" earnings of white males working in federal jobs (the left out dummy variable in our "level of government variable) by multiplying the coefficients in the white male equation (Table 4.5) for each occupational segment by the white male mean values for variables other than "level of government (see Appendix B, Table B-1).

3. The predicted earnings of white males in state and local public jobs was estimated by subtracting the coefficient for "state" and "local" variable from our calculation except to subtract those coefficients from predicted federal job earnings of each group.

The Results

Table 4.9 presents the mean earnings of white and black men and women in different segments of the labor force and in different levels of government. These earnings have been adjusted for white/black and white and black male/female education, age, training, and time worked differences, so the earnings differences shown are the result of differences between groups of the return (coefficients) to these characteristics.

We observe that in general the state level pays lower salaries than either federal or local government and that, except in one case (primary subordinate black males), federal salaries are the highest. The low level of state salaries and the higher level of local relative to state salaries may be in part explained by the concentration of local government employees in big cities and the location of most state capitals in much smaller cities, where cost of living (particularly rents) may be lower. Federal jobs are also concentrated in large cities, even more so than local government work. The 14 percent difference between federal and local salaries for secondary white male workers, or the 5 percent difference in primary subordinate white males or the 15 percent difference in primary independent white females might be

TABLE 4.5

Regression Estimates, Dependent Variable Annual Earnings (in 10^2 dollars), White Male Public Employees, by Occupational Segment, 1970

Variables	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
Currently Attending School	-15.94**	- 9.59	3.55
8 years of less schooling	- 9.53***	-15.14***	-
9-11 years	- 5.04	- 7.40***	- 9.76
13-15 years	- 0.80	27.09***	19.25**
16 years	14.93	-14.64*	9.73
17 years	-	11.25	17.42*
18 or more	-	56.64***	33.01***
Married	6.12	10.75***	8.28
Was Married	3.71	0.76	0.06
15-19 years old	-	-12.06	-
20-24 years old	-12.58*	-24.36***	-52.44**
25-34 years old	- 5.28	- 4.38	-17.29***
45-54 years old	- 0.67	- 0.29	9.66***
55-64 years old	- 3.81	- 2.56	14.96***
65+ years old	-23.26***	-10.02*	-10.62
Vocational training	- 4.76*	- 5.52***	- 0.54
Spanish surname	-13.32**	- 1.29	-12.28
Weeks worked	0.90***	1.17***	1.70***
Hours worked	0.38***	0.25***	0.19*
State government	- 5.82	-12.32***	-26.12***
Local government	- 7.81**	- 3.55*	-29.53***
Constant term	13.63	16.18	13.19
R^2	.400	.154	.232
No. of cases	329	1,598	1,490
Mean earnings	5,670	8,282	12,130
Mean weeks worked	48.4	50.6	49.2
Mean hours worked	38.1	40.5	40.6

* Significant at a 10% significance level.
** Significant at a 5% significance level.
*** Significant at a 1% significance level.

Source: Based on statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.6

Regression Estimates, Dependent Variable Annual Earnings (in 10^2 dollars), Black Male Public Employees, by Occupational Segment, 1970

Variables	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
Currently Attending School	- 3.43	3.62	-14.24
8 years or less schooling	-15.08**	-23.39***	-
9-11 years	- 9.92	-14.86***	-21.82
13-15 years	- 9.67	- 5.02	- 8.97
16 years	-	- 3.57	28.11
17 years	-	18.82	62.34**
18 or more years	-	- 3.25	65.35**
Married	10.21	4.73	- 0.90
Was Married	2.70	3.67	- 3.14
15-19 years old	-	-	-
20-24 years old	-11.06	-15.49*	-
25-34 years old	- 9.36	-10.69**	1.46
45-54 years old	- 0.26	3.79	- 4.50
55-64 years old	- 8.74	2.06	14.78
65+ years old	-12.76	-20.62*	- 7.42
Vocational training	-14.20**	-10.30***	-14.76
Weeks worked	0.84***	1.03**	2.22*
Hours worked	0.33	0.56***	0.11
State government	- 8.01	-21.91***	-49.29**
Local government	- 3.11	6.10*	-31.11*
Constant term	19.84	9.48	9.01
R^2	0.292	0.340	.178
No. of cases	139	231	75
Mean earnings	4,999	7,129	11,107
Mean weeks worked	46.6	50.4	48.0
Mean hours worked	37.8	39.1	37.1

* Significant at a 10% significance level.
** Significant at a 5% significance level.
*** Significant at a 1% significance level.

Source: Based on the statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.7

Regression Estimates, Dependent Variable Annual Earnings (in 10^2 dollars), White Female Public Employees, by Occupational Segment, 1970.

Variables	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
Currently Attending School	-	.19	3.02
8 years of less schooling	- 3.01	- 7.66***	-
9-11 years	- .71	- 6.68***	- 2.16
13-15 years	-	2.69	5.24
16 years	-	6.61	12.70**
17 years	-	18.08**	25.60***
18 or more years	-	17.27	30.51***
Husband present, children	9.18	-11.16***	- 7.86**
Husband present, no children	12.67	- 6.22**	- 4.88
H.H.,not single,children	12.82	- 5.38	- 2.34
H.H.,single, children	-	-17.03	- 2.41
H.H.,not single, no children	7.01	- 0.41	4.66
H.H.,single, no children	8.03	4.81	8.17
Male H.H., not single	-	-18.01	-19.00
Male H.H., single	-	-14.00*	3.73
Not single, prim.or sec. individual	12.53	- 7.20**	- 5.37
15-19 years old	-	-11.38	-
20-24 years old	3.57	- 8.87***	-27.28**
25-34 years old	- .18	- 0.88	- 7.33**
45-54 years old	.00	1.33	5.93*
55-64 years old	.70	1.95	6.99**
65+ years old	.90	0.07	-12.34**
Vocational training	- .39	- 4.78***	- 2.55
Spanish surname	- 9.04	6.14	8.50
Weeks worked	.78***	1.02***	1.16***
Hours worked	.13	0.28***	0.10
State government	- 9.06	-12.60***	-19.14***
Local government	-13.19***	-14.75***	-13.30***
Constant term	- 5.16	12.30	25.35
R^2	.300	0.404	0.213
No. of cases	103	1,182	1,189
Mean earnings	3,153	4,948	7,952
Mean weeks worked	43.7	46.6	42.5
Mean hours worked	29.6	35.2	34.4

* Significant at a 10% significance level.
** Significant at a 5% significance level.
*** Significant at a 1% significance level.

Source: Based on the statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.8

Regression Estimates, Dependent Variables Annual Earnings (in 10^2 dollars), Black Female Public Employees, by Occupational Segment, 1970.

Variables	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
Currently Attending School	2.06	-16.72	18.23
8 years of less schooling	- 9.19	-10.91	-
9-11 years	- 5.93	1.74	17.70
13-15 years	-33.22	- 4.73	61.32***
16 years	-	0.70	-26.50
17 years	-	58.09	-20.65
18 or more years	-	-	- 9.88
Husband present, children	-19.08	10.11	2.77
Husband present, no children	-16.93	- 9.73	7.85
H.H., not single, children	-31.72*	- 5.42	38.13***
H.H., single, children	-37.65*	-13.48	-
H.H., not single, no children	-21.03	-21.47	15.88
H.H., single, no children	- 9.43	14.64	- 2.48
Male H.H., not single	-	-31.36	-15.06
Male H.H., single	-	-31.78	-
Not single, prim. or sec individual	-	-15.62	0.04
15-19 years old	-	-	-
20-24 years old	- 3.50	- 6.06	-
25-34 years old	1.86	10.09	- 3.28
45-54 years old	4.60	18.20	1.91
55-64 years old	3.76	52.21***	- 1.01
65+ years old	-	12.22	-24.61
Vocational training	- 5.68	9.63	-16.68**
Weeks worked	0.40	- 0.55	1.23***
Hours worked	0.18	0.78**	- 0.13
State government	- 0.81	-20.07*	- 8.31
Local government	0.55	-14.94	- 6.91
Constant term	35.03	45.93	4.97
R^2	.207	.012	.248
No. of cases	44	203	140
Mean earnings	2,943	5,327	7,376
Mean weeks worked	46.7	45.3	42.6
Mean hours worked	32.1	35.0	34.8

* Significant at 10% significance level.
** Significant at 5% significance level.
*** Significant at 1% significance level.

Source: Based on the statistical analyses of the 1970 1/1000 Public Use Sample, U.S. Bureau of the Census

TABLE 4.9

Public Employees' Mean Earnings Calculated from Regression Estimates (adjusted for education, age, and training differences), by Occupational Segment, Level of Government, Race and Sex, 1970.

Level of Government	Secondary/ Secondary		Primary Subordinate/ Primary Subordinate		Primary Independent/ Primary Independent	
	White Males	Black Males	White Males	Black Males	White Males	Black Males
Federal	6,424	5,676	8,045	7,351	14,163	14,084
State	5,842	4,875	6,813	5,160	11,551	9,155
Local	5,643	5,365	7,690	7,961	11,210	10,973
	White Females	Black Females	White Females	Black Females	White Females	Black Females
Federal	4,862	3,701	6,407	6,987	10,265	8,691
State	3,956	3,620	5,147	4,980	8,351	7,960
Local	3,543	3,756	4,932	5,493	8,935	8,000

Source: Based on Tables 4.4 to 4.7.

TABLE 4.10

Ratios of Estimated Earnings by Race, Sex, Occupational Segment, and Level of Government, 1970.

Level of Government	Secondary/ Secondary	Primary Subordinate/ Primary Subordinate	Primary Independent/ Primary Independent
	White/Black Males	White/Black Males	White/Black Males
Federal	1.13	1.09	1.00
State	1.20	1.32	1.26
Local	1.05	0.96	1.02
	White Males/ White Females	White Males/ White Females	White Males/ White Females
Federal	1.32	1.26	1.38
State	1.48	1.32	1.38
Local	1.59	1.56	1.25
	White Males/ Black Females	White Males/ Black Females	White Males/ Black Females
Federal	1.74	1.15	1.63
State	1.61	1.37	1.47
Local	1.50	1.40	1.40

Source: Based on Table 4.9

explained by cost-of-living differences; however, the 25-30 percent differences in salaries between federal and local jobs for primary independent white and black males and primary subordinate white and black females seem beyond such an explanation.

Possible differences in discrimination by level of government and occupational segment are considered in Table 4.10. Black and white males receive essentially the same salaries at the local level (in all occupational segments) when these salaries are adjusted for education, age, training, and time worked differences.[3] But at the state level and in lower level federal jobs, black males are paid less even with these adjustments. One possible explanation of the much greater discrimination at the state level and the absence of discrimination locally is that most blacks at the local level work in big cities while at the state level they work in less "progressive" state governments. Another is that jobs are more unionized at the local level, making salaries more equal between whites and blacks. In any case, the fact that most public employees are employed at the local level and the fewest at the state level (only 16 percent of the blacks in our sample were employed at that level -- see Table 4.1 and 4.2), indicates the reason why -- despite discrimination at the state level -- we found small salary differences between adjusted salaries of black and white males working in the public sector overall (see Chapter 3).

The situation for women is very different. Generally black women earn higher adjusted salaries than white women in primary subordinate jobs and lower salaries in primary independent and secondary jobs. This in itself is interesting, but the discrimination between white males and white and black females across levels of government confirms that women in all three sectors of public jobs have failed to make the same kind of gains as black males. Except in one case (black women working in primary subordinate jobs in the federal government) there is at least a 25 percent difference between white male and female salaries. In most occupational types and levels of government there is 35 percent or more difference in hours and weeks worked, which contribute significantly to the even greater differences in salary when there is no adjustment for time worked.

Local government discriminates least in professional/administrative jobs, probably because of the high percentage of teachers in those jobs at the local level (teachers, whether men or women, are paid by educational preparation and years of service). But that same level of government discriminates most in primary subordinate jobs. The federal government discriminates least against women in lower level jobs, but most in higher level jobs. The state level seems to discriminate more against black women than white, probably for the same reason as we gave for the discrimination of that level against black males. The fact that local and federal government is weighted toward large cities does not have the same effect for women as for black men; neither, apparently, does greater unionization at the local level. Women with the same education, age, and training as men most probably hold a different set of jobs than men do in the public sector, jobs which are considerably lower paid.

Conclusions

There is substantial variance in salaries in the public sector, but at the federal and local levels the primary difference in salaries is between men and women rather than blacks and whites. At the state level, the primary difference is between white males and other groups (black, women). Our previous conclusion (Chapter 3) that black and white males in the public sector receive almost equal salaries when such salaries are adjusted for education, age, and time worked differences is altered in this chapter to show that this effect is primarily the result of salary equalization at the federal and local level, but not at the state level. On the other hand, male/female salaries have not equalized in any level of government. We conclude that equal opportunity rulings notwithstanding, women have not been able to move into the same kind of work in the public sector as equally educated, experienced men, even black men. Thus, in the same broad categories of occupations, women are apparently relegated to lower paying jobs. The issue of whether they are mostly filled by women (secretaries, teachers) or whether women are assigned to them because of their low-pay characteristics cannot be treated here but certainly demands historical analysis.

Footnotes - Chapter 4

1. This is in our sample. Aggregate figures show only 20 percent of public civilian employment in the federal government (ACIR, Significant Features of Fiscal Federation, 1976 Edition (Washington, D.C., ACIR, 1976).

2. For black males we also assume that the black labor force has the same percentage of married, "was married," and single as the white male labor force, but our civil status categories for women did not correspond to those for men, as we assumed that women's marital status distribution did not change.

3. These ratios are not comparable to the ratios in Table 4.3 for two reasons: (a) the ratios in Table 4.3 are based on earnings of all employees in a particular job segment, not just those who have worked in that segment over a five-year period; (b) the ratios in Table 4.3 are based on earnings which are not adjusted for differences in time worked and personal, "human capital" characteristics.

CHAPTER 5

Policy Implications of the Study

Our analysis has presented a mass of empirical results on comparisons of number employed, wages, and education in the public and private sector. Let us summarize those results briefly:

1. Employment: The public sector is employing an increasing percentage of the labor force. This growth has continued unabated since the beginning of the century (except for a decline after World War II) but has been more rapid since 1940 than before that year. An important feature of the growth of government employment is that it has been particularly favorable to women and minority men, while the growth of private sector employment -- which still represents more than 80 percent of total employment -- has been particularly unfavorable to women and minorities.

We also find that the occupational composition of the public sector is different from the private: the public sector is much more heavily weighted toward higher educated, professional jobs than the private. More than 40 percent of all government jobs are professional/administrative, while only 16 percent of private jobs fall into that category. At the other end of the spectrum, only 11 percent of public jobs are secondary, or menial, jobs, while 22 percent of private employment is menial.

So the government has, in relative (but not absolute) terms, more opportunity to employ women and minorities in higher level jobs than the private sector; nevertheless, public employment has been much more oriented toward employing these groups evenly across all kinds of jobs than does the private sector. For example, in private employment, 55 percent of all secondary jobs are held by women and black males, but they only hold 28 percent of professional and administrative jobs in that sector. In the public sector in 1970, 49 percent of secondary jobs were held by women and black men, and they had 53 percent of the professional and administrative jobs. We find, then, that the public sector has become the major employer of highly educated women and minorities (particularly blacks), groups which have had considerable problems finding employment in the private sector.

Within the public sector, however, there are also important employment differences between white males and other groups: in 1970, 56 percent of jobs held by women and blacks were at the local level, while only 21 percent were at the federal level. For white males, 32 percent of jobs were at the federal level. The situation is particularly extreme for white women: only 17 percent of their government jobs in 1970 were federal jobs and almost 60 percent, local (black males had 38 percent of their jobs at the federal level, 47 percent locally). Seventy percent of women and blacks in professional and administrative jobs worked at the local level and only 8 percent at the federal level, while 27 percent of white males in such jobs were employed at the federal level and only 41 percent in local government. Again, the figures are heavily weighted by the situation of professional white women, who only held 7 percent of their jobs at the federal level, but black professional women also had only 11 percent of their jobs at the federal level (black male professionals had 21 percent of their jobs in the federal government and 56 percent locally). Thus the local government has been the most active in employing women and blacks, although the federal government is an important employer of black males. Federal intervention on behalf of white women has been very limited.

2. Salaries: Not only does the government employ women and blacks in the higher status occupations, we show that they are paid more in the government sector than in private competitive industries. Only the "monopoly" part of the private sector pays salaries to women and minorities which are similar to government salaries. Thus the public sector not only employs a higher fraction of women and blacks in high status jobs, it generally pays more to these groups in all types of jobs than does the private sector. But not only does government pay more to marginal groups in different types of jobs, it also pays less to white males than the private sector does in these same kinds of jobs. The public sector therefore discriminates less against blacks and women, salary wise, than the private. Indeed, on almost any measure of discrimination, the government treats people of different race and sex more equally than the private sector, especially than competitive industries in the private sector. While salary race/sex differentials fell in the private sector more rapidly in the lowest level jobs between 1960 and 1970, they stayed relatively the same in higher status jobs.

We also find that salary discrimination against women -- again measured in several different ways -- is much greater in both the public and private employment than discrimination against blacks. The government has almost equalized earnings of blacks and whites in each level of job particularly when earnings are corrected for black/white education and age differences within job type. But women (both black and white) have not achieved nearly that degree of equalization: large earnings differentials between men and women continue to characterize government employment at every level of job.

In part, this can be explained by our finding that a very small percentage of white women have federal jobs, where the pay is higher than at the state and local level. Thus white male salaries are more heavily weighted by federal salaries and this exacerbates the male/female salary difference in the public sector (just as a higher percentage of men have jobs in the higher-paying monopoly private sector while women are more concentrated in the lower-paying competitive sector). Yet, even within federal, state, and local levels white men/women salary ratios are large, consistently higher than white/black male ratios. And in professional/administrative type jobs, the white male/female salary ratio is greater in federal than in either state or local jobs. All this points to greater discrimination against women than blacks even in government jobs and even in federal government jobs.

3. Education: In 1960 in the public sector, blacks (both males and females) had similar or higher levels of schooling than whites for each of three job categories that we used to classify work, but in the private sector the level of blacks' schooling was considerably lower in each job type, especially in menial and middle-level jobs. In 1960 and 1970, workers in the public sector, no matter what their race or sex, had higher average schooling than workers in the private sector in the three job categories. The difference in schooling between the public and private sector was particularly large for blacks, but significant differences also characterized the education of white men and women in professional/administrative jobs.

At lower job levels (menial and production/technician occupations) education levels for both blacks and whites rose between 1960 and 1970, but in public and private sector professional/administrative jobs average education of blacks (men and women) fell. This left white average education higher than black education levels. Thus the rapid and continued absorption of blacks into higher level jobs -- even more so in the public sector jobs -- led to a fall in their average schooling. while whites' mean education for those kind of jobs rose in the same period. This same pattern held true for younger (25-34 years old) workers.

The differences in education at the federal, state, and local level of government in 1970 were small in menial and middle-level jobs, with workers in federal jobs generally having higher average schooling than either state or local workers, regardless of sex or race. But in professional/administrative jobs the opposite held true: those in federal jobs -- again regardless of race or sex -- had much lower average schooling than those in state or local jobs. For white men and women, the greatest difference occurred between state-local and federal, while for blacks, those in local government professional jobs had much higher average schooling than either state or federal, with federal the lowest. In part, this can be explained by the high proportion of teachers -- with required college completion as a prerequisite of their job -- employed in this category of work at the local level.

We also examined in detail the possibility of using education as a tool of equalizing salaries of blacks and whites, and women and men within the private and public sectors. In other words, is differential schooling within job category and sector of work an important explainer of black/white, male/female earnings differences? We found that it generally was not. This implies that equalizing the schooling of blacks to whites and women to men will have little effect on the differences in salaries paid to those groups even within a job classification. On the other hand, the public sector pays more equal salaries to minorities and women than the private sector both before and after adjusting for education differences. So a shift from private to public employment should tend to reduce discrimination and equalize incomes among different groups. Thus, the concept of equalizing earnings through equalizing personal characteristics is less persuasive according to our results than the concept of equalizing wages through incomes policies such as those practiced more extensively in the public than in the private sector.

Can We Describe a Model of Government Behavior?

Under what theory of the role of the State in capitalist societies would we observe this kind of government action in the labor market? We had a situation in 1960 where private industry, particularly competitive industry, paid much lower salaries to black and women workers within various types of jobs than they paid to white male workers. Furthermore, competitive and monopoly industries together employed few blacks and women in professional and managerial jobs. By 1960, the public sector had become the principal employers of women and black professionals and paid higher salaries to black and women workers than the private sector. The government, then, could be viewed as either (1) satisfying its own political aims, ignoring the "rational" payment of lower wages to blacks and women in the private sector, salary differentials allegedly dictated by lower productivity of blacks and women in each kind of job; (2) acting as a "vanguard" employer to eliminate prejudicial discriminatory hiring and payment example (on the assumption that such practices reflect "irrational" discrimination); (3) acting together with the monopoly private sector to hire and pay more in line with a "modern", nondiscriminatory view of capitalistic society, while the private competitive sector hired and discriminated much more in keeping with older, more traditional exploitative capitalism; or (4) coopting dissent in the private sector by hiring and paying relatively high salaries to those groups who were most likely to create difficulties for capitalist expansion, while allowing the private sector to continue to maximize profits by discriminating against important groups in the labor force.

We contend that the first view is not a powerful explainer of labor market behavior: if the recent neo-classical work in human capital has validity in predicting productivity differences through education and experience (age) differences, wage payments to blacks in the private sector in both public and private employment within type of job cannot be explained at least by those measures of productivity. Further, the differences are large enough that it is difficult to imagine that other factors such as quality of schooling differences (Welch, 1973), turnover rates (among women) or motivation and intelligence (IQ) would explain salary differences between white males and other groups in the private sector. Thus we contend private industry does discriminate, and the public sector discriminates less, perhaps more consistent with "productivity" differences among individuals than the competitive private sector.

Most important, however, is that the public sector employs such a high percentage of blacks and women with high levels of schooling. Why has the public sector incorporated these groups? Is it primarily because blacks and women were willing to take public sector professional/administrative jobs while white males preferred private sector professional and administrative jobs, where there was a small possibility of *very* high salaries? That argument implies that the private sector took the "best" workers in American society, leaving the public sector the less-well prepared and less career-reliable blacks and women professionals. Yet, why then did and does the public sector pay *higher* salaries than the private sector to blacks and women while paying *lower* salaries for similar types of jobs to white males? The government must *prefer* black and women professionals relative to white males. Certainly its preference function is different from the private sector's. The public sector -- if the "leftover" theory is correct -- is willing to pay these "leftovers" considerably higher wages than if the government were indifferent as to whom it employed. As a result, it appears that, if anything, the public sector should be employing the "cream" of blacks and women at every job level.

A "vanguard" view of the public sector seems like a fairly reasonable explanation of our results: government employment could serve to break culture-bound labor market discrimination, convincing private sector employers that black and women workers can be as productive and reliable as white males. The percentage of blacks -- both men and women -- hired into middle and higher level jobs in private employment did rise substantially between 1960 and 1970 compared to public sector increases (see Chapter 2) but salaries rose more in the private sector for black males working in *menial* jobs. Furthermore, the relative situation of white women in the private sector did not improve significantly in the ten years. So, the public sector hiring and salary-payment example seems to have had some effect on the private sector, but it has not been startling.

As important, however, is that if the public sector has responded over the years ahead of the private sector to demands by blacks and women for fairer treatment in the labor market, it has done so, not in favor of the poorest (and largest in absolute numbers) blacks or women. Rather, government employment has deviated most radically from private employment in its hiring of highly educated blacks and women. And, particularly in the case of white women, its salary premium over the private sector has been much larger for those women in professional and administrative jobs. The response of government to minority and women's needs has therefore been heavily weighted to the middle-class and well-educated, not to the poor.

This suggests that the government's "vanguard" role has been largely to employ a higher proportion of highly educated women and blacks than the private sector. There is further evidence that between 1960 and 1970, even while the private sector was increasing its percentage of blacks working in higher and middle level jobs, the public sector was increasing the absolute number of blacks employed in those jobs even more rapidly than the private sector. So much so that while average education of black professional and administrative workers fell between 1960 and 1970 in both the private and public sectors, and average education of white workers rose, the reverse movements were greater in the public than in the private sector. The government, then, continued to absorb the majority of blacks and women who worked in professional and administrative jobs in the American economy even in the 1960s, a period of great pressure on the private sector to reduce discrimination. This appears to be considerably more than a "vanguard" operation.

As far as a corporate model (point (3) above) is concerned (see Berle and Means, 1968 and Galbraith, 1967, for examples of corporate model of the State), our data do show that discrimination is greatest in the private competitive sector, and that salaries in the government and monopoly sectors are much more equal and higher for all groups than in private competitive employment. It is likely that job structures and work conditions in public and private monopoly employment are also rather similar, with their complex divisions of labor and job ladders (Carter and Carnoy, 1974). Furthermore, because of government contracts to large private manufacturing companies, there is considerably more interaction at the decision making level between the public and private monopoly sector than most of the private competitive sector.

The "market" conditions of public and private monopoly employers are such that they can pass on higher wages to consumers in the form of higher "prices" for goods and services. While this has sometimes been more difficult for the public sector because of tax revolts, etc., government has many ways to hide higher prices of services, even though the price of the services themselves may not be higher. One way is through higher interest rates because of increased government debt (demand for borrowing); another is through inflation. The ability to pass on higher prices allows both sectors to be less "tight" on salaries than the private competitive sector and probably to be less discriminatory against blacks and women, since it is not as imperative to keep wages low for the extraction of surplus in monopolies and government. Union organizations have therefore been more acceptable in monopoly private and public employment than they have been in private competitive firms. Unions also serve another purpose in monopoly and public production: they regularize production for the firm, controlling the labor force during the contract period (Center for Economic Studies, 1976). This all points to similar salary and job structures in the public and private monopoly sectors.

While salary structures in the private monopoly sector are closer to public sector salaries in that they both discriminate much less within the same job than the private competitive sector, monopoly sector hiring practices (percentage of blacks and women in higher level jobs) are much more like the private competitive sector. If the monopoly sector is tied to the public sector in a joint effort to "modernize" exploitative, competitive capitalism, apparently the private monopoly industries are not yet willing to incorporate large numbers of minorities and women into professional and administrative jobs. In that sense, the public sector appears to be shielding both competitive and monopoly industries from the necessity to hire more blacks and women in higher level jobs. Since monopoly industries have a larger fraction of their overall jobs in such positions, they are, therefore being more protected by the public sector than competitive industries, who employ a large fraction of the labor force in secondary and production work, and hence most blacks and women, but do not have a high percentage of professional and administrative workers.

This still does not differentiate between a pluralistic model (Dahl, 1967) of government employment and an instrumentalist/structuralist model (Perlo, 1973 and O'Connor, 1973). The government may have hired more blacks and women historically and continued to increase their numbers in public employment because of the increased political power of black people and the imperative to employ blacks and women in higher better jobs for moral reasons of equality demanded by the society as a whole. But the pluralistic model should operate to legislate that equality in the private sector rather than to supply it through direct employment in the public. Secondly, it seems inconsistent with the moral imperative reasons of this model that the public sector would move most differentially and with the greatest differential reward to employ minorities and women who are professionals rather than into the mass of these groups, where economic difficulties are the greatest. Finally, it is clear from our data that the most potentially powerful of these "marginal" economic groups -- white women -- have been significantly employed by the public sector, but at very low salaries (much lower than white males) and with very little change in the relative salaries between men and women in the decade of the 1960s. In fact, the employment of white women professionals has been largely as teachers. There may be other reasons besides equality of opportunity why women were employed as teachers (Katz, 1971). These include the lower salaries women are willing to accept; the lack of alternative employment and hence greater control which can be gained over teachers' classroom behavior; and the cultural identification of women with the teaching and disciplining of young children.

The data in our study seem to indicate (although clearly do not prove) that most important intervention by the government -- particularly the federal government -- in the labor market in recent years has been on behalf of black males, and that the government primarily employs not the very poor, but rather well-educated blacks at higher than private sector salaries. It appears that this has been a response to political pressure, in part -- as the pluralistic model would predict -- a reaction to an ethical imperative to give everybody an equal chance, but largely, we feel from what the data show about government employment behavior, as a way of giving blacks work in the economic system instead of leaving them out of employment or creating excessive pressure on the private sector for employment and equal wages. According to a "structuralist" model (O'Connor, 1973), we could interpret the data to read that government employment has served a very important function in capitalist development: it has absorbed potentially dissident and troublesome groups into the labor market at relatively high salaries and in "good" jobs rather than letting them conflict with white males over professional and administrative jobs in the private sector.[1] Perhaps more significant, such public action in the labor market has probably done much to preserve the ideology of upward mobility through education by providing higher level jobs for minorities and women. The contradictions between the Liberal, eighteenth century ideology of the equality and freedom of individuals espoused by Locke, Paine, Adam Smith and Jefferson and the harsh reality of capitalist development has always posed problems for U.S. philosophers and reformers. In present day monopoly capitalism, one of the great problems has been the lack of mobility (permanent assignment to poverty) of certain minority groups in a supposedly classless society. Without government intervention, it is hard to see how Liberal ideology would not have suffered even more: such a small percentage of blacks could have become professionals and administrators in the private sector even with higher education, that social mobility for these groups would have been severely limited.

Future Changes Which Could Affect the Growth of Public Employment

Since the government's role in employment is important, especially for particular groups, what kind of changes in the 1970s and the 1980s could affect this growth?

1. The slowdown in population growth since the late fifties has now reached the point where U.S. population might reach zero growth by the late 1980s. Slower population growth also means a downward tendency of demand growth for public services altogether, although there would be an increase in certain kinds of demand, such as health services, social security, and certain kinds of recreational activities, all of which correspond to the increasing average age of the population. The population also is tending to become slightly more black and other ethnic minority because of the greater fertility rates of those groups. Fewer children in white, middle-class families also means that women will have more opportunity to seek work.

Without ignoring the dangers of doing analysis on the basis of population projections (projections in the 1930s greatly underestimated post-war population growth rates), and without ignoring the ripple on the population growth curve caused by baby-boom women's attainment of child-bearing age, we can assess the effect on the labor market and government employment of secularly declining birth rates.

First, we can expect that the problem of minority and women's employment will not decrease. Minorities should become a larger percentage of the labor force and women should be seeking work in ever greater numbers and on a more permanent basis. Second, the average education of blacks and women, like everyone's average education, will increase but their average education could increase even more rapidly (particularly blacks, whose mean education is so much lower than whites). Third, the demand for public education at the primary and secondary level should decline sharply, and while demand for higher education -- particularly community and state college type of post-secondary education -- should increase over the few years, by the 1980s, the decline of population growth should begin hitting the colleges as well. Since most professional black males and an overwhelming percentage of women professionals (about 70 percent) are employed in the local public sector, primarily in education, the decline in primary and secondary education (and ultimately college) will have a profound effect on the absorptive capacity of the public sector for these groups unless other services (such as health care) expand sharply. So the combination of overall lower population growth, a probable increase in the minority and female labor force, and a certain increase in the average education of blacks and the percent of college educated women seeking full-time work, creates a situation of declining demand for the principal employment of professional blacks and women at the same time that their potential absolute number in the labor force is increasing.

2. The State, especially local areas, but government in general, is facing a fiscal crisis (O'Connor, 1973). The origins of this crisis, according to O'Connor, lie both on the side of financing state expenditures and the rising expenditures themselves. In pluralist theory, as we explained above, the State is supposed to increase expenditures and lower receipts (run a deficit) in periods of recession, but run a surplus in periods of private sector economic expansion. In practice, we have seen increasing government expenditures even in expansionary periods, even though in such periods, the government could run a surplus

because of increased government revenues. More recently, however, despite increases in revenues during expansionary periods, there has been a tendency to continue to run deficits because of the greatly increased cost of government services and the expansion of those services even in economic upswings. The structuralist view explains this by arguing that the State is not simply in the business of countercyclical economic policy; its spending serves to mediate the contradictions in capitalist development. O'Connor goes even further to argue that monopoly capitalism depends on the State for its survival and continued expansion, and, indeed, as the contradictions heighten, requires more and more State services in order to be viable. As Sweezy and Magdoff argue (Sweezy and Magdoff, 1971), the 1930s crisis of realization in the private sector was never solved: the expansion of the demand for goods and services as well as the maintenance of reasonable levels of unemployment (in contrast to the 17 percent level of 1938) have depended on government contracts to the private sector and direct government employment.

Recently, rising raw material costs and competition from other capitalist countries have created difficulties for American capitalism (Barraclough, 1975). At the same time, the need to expand production has increased reliance on overseas markets and overseas production by American-based, transnational companies and simultaneously conflicted with nationalist communist movement opposed to foreign capitalist expansion into their countries. Both of these conditions have led to the need for increased government expenditures: on the one hand, increased government contracts to private firms combined with increased unemployment insurance, welfare payments and police expansion to both promote economic expansion and cover the most flagrant injustices (and potential unrest) associated with capitalist development; and on the other hand, increased military expenditures to control unrest in the rest of the world. The Vietnam War was the great failure of this policy and certainly contributed to the fiscal crisis the State finds itself in now. But the fiscal crisis would not be nearly as great if the government did not face the imperative of continued military expenditures to support U.S. capitalist expansion. Union activity among government employees has exacerbated the fiscal crisis by raising the labor costs of government, particularly local government where unions are most active.

So government expansion is a necessary and crucial part of capitalist development, according to the structuralist theory, and that expansion becomes more expensive as the costs of maintaining the economy at home and abroad rise. Thus it is difficult to cut substantially the government budget. At the same time, the raising of funds to support these expenditures becomes more difficult. The development of profit-making public enterprise is a precluded solution to government financial difficulties because the private sector reserves profit-making activity for itself. The other three principal means by which the government can raise funds -- the floating of increased debt through bond and bill sales, direct taxation, and inflation -- are also becoming increasingly costly because of higher interest rates (particularly because of inflation) and because of voter revolts against higher direct taxes and inflation. The State is politically constrained against taxing profits directly, and corporate taxes are in part shifted to consumers in the form of increased prices. So in one form or another the low and middle income taxpayer will bear the brunt of any attempt to increase government revenues through taxation, either direct or indirect. The increasing resistance from taxpayers is seriously raising the political costs of increasing government revenues (see O'Connor, 1973, on the taxpayer revolt).

This fiscal crisis is especially apparent at the local level. New York's problems in 1975-76 of a receding tax base as wealthier residents move to the suburbs but work in New York (requiring the city's services); increasing crime, burgeoning welfare roles, and increasing wage demands of local city employees' unions are replicated in a number of other large cities in the country. Since one-half of all public employees are at the local level, the fiscal crisis at that level has particularly strong implications for employment. Furthermore, if the struggle between public employees' unions and local government managers continues to center on wage demands, the net effect may be to increase wages for public employees but to reduce the number of people employed at those wages, much in line with the history of the expansion of private enterprise vis-a-vis union activity.[2]

To summarize, there appear to be important forces in the economy pushing for the decline of public expenditures and public employment, especially at the local level. According to our data, this will have greater impact on minorities and women than on white males, particularly on women, and most profoundly on minority professionals and women professionals. On the other hand, the imperative to continue government expansion is increasing in the face of increasing difficulties of the private sector to realize profits domestically and in the face of increasing unemployment levels.

The Contradictions of Government Expansion

The pressure from taxpayers to cut government expansion and the imperatives to expand it form the major contradiction of government employment growth. As we have argued, the pressure will be particularly great to reduce the employment of professional minorities and women, and if these groups continue to be seen as potentially explosive political dissidents or as an especially strident reminder of the inequities of capitalism, their relative increase in the labor force and increasing education will heighten the imperative to employ them somewhere in the government sector at pay equal to white males.

1. We have noted that the private sector has been slow to increase employment of blacks and women at pay equal to white males. There was substantial improvement in this situation in the sixties and early seventies (Freeman, 1975) and, as far as black males are concerned, there should be continuing equalization of salaries for that group in the private sector, especially in monopoly industries. But there is little reason to believe that the private sector will substantially increase its hiring of minorities into professional/administrative jobs. In other words, for those blacks working in the private sector, pay will increase relative to white males, but the number of blacks working in the private sector as professionals and administrators should not be expected to increase rapidly despite a greatly increased supply of highly educated blacks. The preference of the private sector for white males does not appear to have changed substantially, and, given the pressure for equal pay, it is likely that fewer, not more, blacks will be incorporated at higher levels in private corporations.

The case of women is somewhat different since they began their recent offensive for equal pay only in the late sixties. The greater equalization of pay, if it is successful, will have a negative effect on the incorporation of women into professional and administrative jobs, but more importantly, it is unlikely that the private sector will increase the number of women working in higher level jobs rapidly unless their pay is lower than that of white men, and the private sector can lower average labor costs by this action.

One way that this may happen is that as the professional and administrative functions of corporate bureaucracies gradually become more routinized, it is likely that more women (and minorities) will be hired but at lower pay than professionals receive now. Also, there will be increased division of labor among professionals, so that certain professions, such as specialized medical doctors and specialized engineers, will receive much higher salaries than unspecialized "general practitioners" who will fill technician roles in hospitals and engineering firms. It is these latter "proletarianized" professional jobs that will be filled by women and minorities.[3]

2. The great increase in college and professional degrees achieved by minorities and women, and the probably slower increase in their employment in the private sector in high-paying jobs will continue to put pressure on the public sector to employ professional women and minorities. In addition, the nature of the expansion of the private sector has made it difficult for that sector to absorb the lower skilled unemployed. A significant fraction of these unemployed are also women and minorities, especially young women and minorities. There is increasing pressure on the government to employ this growing group of low-income unemployed as well.

But the expansion of the public sector is difficult, particularly at the local level -- which employs such a high fraction of higher educated blacks and women -- because of the fiscal crisis of the state. Further, the drive for equal pay by women will be difficult even in the public sector because of the push for expenditure cutbacks. If the equalization move is even partially successful under these circumstances, in all likelihood it will be at the expense of women's jobs in the public sector. Since such a high fraction of women are employed at the local level in education -- a declining sector for the elementary and secondary school jobs where they are concentrated -- the drive for increased employment along with increased pay will be even more difficult.

What Will the Public Sector Do?

The women's movement has become an important force for sociocultural change. Although minorities have not been particularly vocal in recent years (despite staggering levels of unemployment in 1974-76), in part due to government programs of incorporation into public sector jobs (higher educated minorities), unemployment insurance, and welfare payments, they also form a potentially explosive dissident force. In addition, eighteenth-century liberal ideology still influences U.S. political action and ideals at some level. It cannot be totally ignored.

We are skeptical that the private sector will expand employment of higher educated minorities and women except as part of the proletarianization of professional jobs. In other words, minorities and women will get more jobs designated "professional" but these jobs will be different in nature from the decision making, high-paying professional jobs further up in the professional hierarchy. More important, women and minorities will not receive, on average, equal pay for professional work (or for that matter, for work in any job type) partly because of the increased division of labor even within the ranks of professionals, and partly because in production jobs, women and minorities are being hired in the place of white men specifically because jobs have been transformed from skilled to semi- and unskilled jobs and because these two groups will work for lower wages.

Both minorities and women will struggle in the private sector for equal treatment, but the private sector will continue to rely on the public sector to solve the demands for upward mobility of these groups. The public sector can ignore the private sector's unwillingness to bear the cost of equal treatment, but then faces the possibility of serious confrontations between the dissidents and the production sector; in addition, there would be significant delegitimization of the capitalist development model. The private monopoly sector cannot afford this and will pressure the state not to reduce its employment of these groups or even to reduce the expansion of employment (despite possible conflict with the politically weaker competitive private sector). It is also likely that there will also be pressure for the equalization of women's pay within the public sector in lower level jobs where the difference in the types of jobs held by women and men is not as great as at the professional level (most women are teachers at the local level in the public sector and teachers (both men and women) get lower salary than other professionals). But even professional women (teachers) are moving to more equal pay with other professionals and will continue to do so. The public sector will also be called on to help solve general unemployment problems, particularly youth unemployment, with massive job programs.

How does this square with the new government asceticism (the anti-"big" government movement) so evident in recent political campaigns and prompted by the taxpayer revolt? While this is certainly a real enough issue, for the most part its demands cannot be met without creating a potential threat to the continued reproduction of the capitalist production system. On the one hand, the private sector needs government expenditure expansion in order to regularize and maintain its own growth. Part of this regularization includes large government contract capability, absorbing the increasing unemployment in the economy and taking care of the poor who cannot be absorbed in production at higher than subsistence wages (welfare payments). On the other hand, it needs to keep dissident groups from delegitimizing capitalist development, so that it can maintain the ideology of capitalism as the one best system. Again, the public sector is called on to incorporate potentially dissident elements into high paying jobs. When budget cuts have come, they generally have been in "social programs," but the cuts are having long-run effects on attitudes among the populace toward the State and capitalist development (ACIR, 1976b; Hart, 1975). In other words, the government will simply not be able to cut back employment expansion, particularly the employment of minorities and women, without incurring a high risk of political conflict. The taxpayer -- which means low and middle-income wage earners -- will continue to foot the bill.

But cuts will be possible at the local and state level of government as long as the federal government increases its participation in financing education and welfare programs at the local level. Since local government's main area of employment capability -- that in primary and secondary education -- is in the process of decline because of declining child population, local expenditures and employment could be cut unless new programs to be administered at the local level are begun. Since taxpayer revolts will be felt most acutely in local governments (which depend heavily on local bond issues voted upon by local taxpayers), it is likely that any new projects will have significant federal participation.

Thus, declining local employment base and taxpayer revolts felt most keenly at the local level imply that in order to employ minorities and women, expecially professional minorities and women, the federal government will have to become a more important direct employer of those groups than it is now and will have to participate more heavily in local government-run programs to reduce short-run potential conflict of unemployed (or underemployed) groups. Nevertheless, it should not be inferred that such programs could do much more than temporarily stave off continued contradictions in U.S. development and in the role of the public sector in that development.

What kind of programs could these be? As we have pointed out, there is a clear demographic tendency toward an older population. The State is already becoming more active in subsidizing medical care of people over 65, but it has not done much in recent years to expand medical facilities or support the expansion of medical care in general. This should be an area of great growth in the next decade, probably with local government administration and a high degree of federal participation. It is also already an area of significant employment of women and minority males, although the number of minority professionals would have to be expanded greatly in order to meet the upward mobility imperative. A second program of potential expansion will be the continued growth of community and state colleges to absorb the increasing percentage of high school graduates continuing to college and the expansion of adult (continuing) education, largely through existing secondary school and community college facilities. We will discuss this second program further in the next section.

Both health care and continuing education are programs that will absorb large numbers of minorities and women and will, to a large extent, substitute as an employment mechanism for the decline of primary and secondary schooling. However, we should emphasize again that it will be primarily the federal government which will be responsible for financing these programs, if not running them. Local governments will find it increasingly difficult to raise public funds for their projects.

Of course, we also have to account for the expansion of direct employment by the government sector in the face of increased unemployment rates and the inability (unwillingness) of the private sector to absorb increased labor as part of its maximization of surplus. Even the eventual slowdown in the rate of growth of the labor force will not solve the problem of high unemployment in the U.S., particularly in the face of increased movement abroad of U.S. firms producing for foreign markets and reexportation to the U.S. Indeed, the labor force has already been largely reduced to men and women between the ages of 25 and 55. Work before 25 and after 55 is rapidly becoming occasional part-time work fraught with unemployment and instability (Osterman, 1975). Thus the federal government, in addition to its financing local public projects in the area of health care, continuing and higher education, and others, will have to expand its programs for employing the unemployed and count on the expansion of college education through local and state programs to keep an increasing percentage of youth out of the labor force. Where the money is going to come from for these programs while the federal government tries simultaneously to support private industry with defense contracts and to increase social security payments because of the increased age of the population is a prime question for the 1970s and eighties. It represents a primary contradiction of capitalist expansion in the next decade.

The Implications for Education

The educational system is a major employer of black and women professionals. We have already reviewed the results of our study which show the high percentage of professional/administrative public jobs pertaining to local government, especially for women and black males. Most of these jobs are in education (second place falls to health care).

We can divide the implications for education of our results into two categories:

1. The implications for the expansion of education because of the imperative of public employment of professional women and minorities in the face of declining enrollments at the primary and secondary level combined with a rapid increase in the numbers of college-educated minorities and women in the labor force.

2. The implications of an expanding public sector and expanding professional opportunities for women and minorities in the public sector on the nature of primary and secondary education for these groups.

The Expansion of Education

With the imperative to expand public sector services because of the inability/unwillingness of the private sector to absorb unemployment in general and minority and women professionals in particular, the government almost has to expand the educational system: first, production and the public sector will not give full-time jobs to all young people who would seek such jobs if they were available. While a government full-employment policy (guaranteed work) would certainly be a logical human-oriented policy in a developed economy like the United States, it is highly unlikely under the prevailing system of corporate capitalism that a full-employment policy will be the course taken by the government. Rather, attempts will be made to expand education beyond secondary school in order to keep more young people out of the labor force longer. Of course, if there were any sudden expansion of the economy, this group of young people would always be available to fill additional jobs. Therefore, we expect that demographic trends will reduce primary and secondary enrollment and hence jobs in the primary and secondary schools, but at the same time, post-secondary schooling will continue to expand, at least for the rest of the decade (seventies). This will take up some of the slack in jobs lost by women and minority professionals because of the decline of lower levels of schooling.

Yet this will not be enough to employ the greatly increased number of minorities and women who will earn college and professional degrees. The educational sector will have to expand beyond simply moving on to expensive post-secondary education. Much less costly adult education is highly labor intensive (similar to primary and secondary schooling), and is the local direction in which the public sector would expand in order to mediate the contradiction of increased unemployment and increased supply of professional labor. Furthermore, adult education could use existing facilities of the contracting primary and secondary levels. In this sense, adult or continuing education fits in well with the need to maintain employment of women and blacks in higher level jobs. The social/economic function of the adult education provided by continuing education is almost beside the point: there is an imperative to keep these higher educated women and blacks employed, and the private sector won't take them; adult education would begin to fill the gap.

Public sector expansion will put pressure on the expansion of higher education not only from the point of view of substituting jobs for declining enrollments in primary and secondary schooling, but from the side of the demand for post-secondary schooling. Our results show that for black men and white women, the reward in 1970 to completing high school is much greater in public sector than private sector jobs, and although the gain is higher to completing college in private sector jobs, the pay-off to graduate education for both groups is higher in public sector jobs. Therefore, overall, the expansion of the public sector employment should increase the average earnings pay-off from completing high school and graduate school.

Changes in the Nature of Education of Women and Minorities at the Primary and Secondary Level

If the public sector continues to expand relatively more rapidly than the private sector, and the projections of black and women participation in public employment hold true as we believe they will because of the imperatives we have outlined above the effect of this expansion should also be felt in the kind of schooling women and blacks receive at the primary and secondary level.

According to our results, the expansion of the public sector should expand the possibility for upward mobility of blacks and women into the higher-paying occupational levels, partly because the public sector employs a greater fraction of its labor force in professional and administrative occupations and partly because there is less salary/occupational discrimination against minorities and women in government employment.

Since professional/administrative jobs now require higher education, public sector expansion means increased openings for higher-educated blacks and women, which should imply more women and blacks seeking college and graduate education. Ultimately, primary and secondary schools should adjust to the growing possibilities for blacks and women filling professional jobs.

Other work being done at the Center for Economic Studies (Wilcox and Moriarty, 1976) and research by Meyer (1970) indicates that school expectations, or the school's "charter" has much to do with the kind of socialization and transfer of knowledge to pupils in the school. In the case of young women, occupational expectations affect their educational performance and how far they go in school, creating a situation where the "charter" may be different for boys and girls within the same school, especially at the junior high and high school level. With continued growth in public employment, the charter of schools for blacks and the general charter for women should change somewhat, and with it the socialization process in elementary and secondary schools; blacks particularly will be treated with somewhat greater expectation for their future occupational roles. This should translate into teacher-student interaction which develops greater internalization of norms and less externally-oriented control. Furthermore, black children would probably be more encouraged to take academic track courses.

All this assumes no great change in the type of socialization behavior currently expected in professional/administrative jobs. The probable proletarianization of professionals which we discussed above may make our assumption wrong. While professional jobs will continue to require college or graduate education, they may not require the same worker behavior traits as a few years ago. In other words, "professional" category jobs may be increasingly externally controlled through general types of hierarchical command (Center for Economic Studies, 1976), much like higher skilled workers and foremen are controlled in production work. To take an "extreme" example: if physicians are divided into more general practitioners working, say, in public hospitals, and specialists who work in hospitals but also have their private practices or work solely in clinics, etc., the general practitioners may be reduced to doing quick analyses of common patient problems governed largely by set rules and practices, or even electronic diagnosing processes (J. Carnoy & Linda Koo, 1974).

It is likely, in such a proletarianization process, that blacks and women moving into the professional ranks will occupy the majority of the proletarianized professional jobs while white males will still have a high fraction of the "true" independent professional and decision making administrative jobs. In that case, school socialization of blacks and women relative to white men may not change much, although we would expect that overall socialization of the labor force would gradually shift somewhat to more internalized norms of behavior as the work force had fewer and fewer secondary (menial tasks) workers.

Chapter 5 - Footnotes

1. There has been considerable discussion (Becker, 1957, for example) over who is trying to keep blacks and women out of higher level jobs in private industry -- whether it is labor or management. Since these jobs are generally not unionized, and since management hires professionals and administrators usually on an individualized basis, it is probably management which discriminates directly because of their own feeling about whom they want in the professional and administrative staff, or because of their perception of potential discord among white male staff members if blacks or women were hired. As we shall argue below, both of these reasons are becoming less important as much professional and administrative work is proletarianized. But as this work is proletarianized, we would not necessarily expect black/white salaries to equalize (see below).

2. O'Connor develops the problem for government employees with clarity and it is worth repeating here:

> ...Yet traditional unionism is bound to fail the state employee, not only in the profound sense that the labor movement has failed workers in the private economy by binding the working population hand and foot to the corporate-dominated political consensus, but also in the immediate sense that state unionism increasingly will be unable to win wage advances and "deliver the goods."
>
> The reason is that private workers and state workers occupy different places in the society. In the short run, the large corporations pass on wage increases won by private workers to consumers in the form of higher prices. State administrators do not have any equivalent indirect "taxing" mechanism. Instead, wage and salary increases must be absorbed by the taxpayer. In the long run, the corporations have responded to the militant economism of traditional unions by accelerating labor-saving technological change, lowering costs, and augmenting productivity...State administrators are unable to increase productivity in the state sector...they do not have any operative profitability criteria to guide decision making. In short, there is no way for the wage struggles in the state sector to "pay for themselves."
>
> Therefore, the state normally resists state unionism in general, and wage demands in specific, more adamantly than [monopoly] private corporations resist private unions. Labor struggles in the state sector are increasingly opposed by the taxpaying working class as a whole, and, as a result, the traditional conduct of these struggles tends to worsen the condition of state employees precisely because the struggles worsen the fiscal crisis itself. (O'Connor, 1973, pp. 146-147).

3. See Braverman (1974) for an account of how jobs are proletarianized under capitalist production.

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